

# ElectricFlow 5.3 User Guide

Electric Cloud, Inc.  
[www.electric-cloud.com](http://www.electric-cloud.com)

### **ElectricFlow 5.3**

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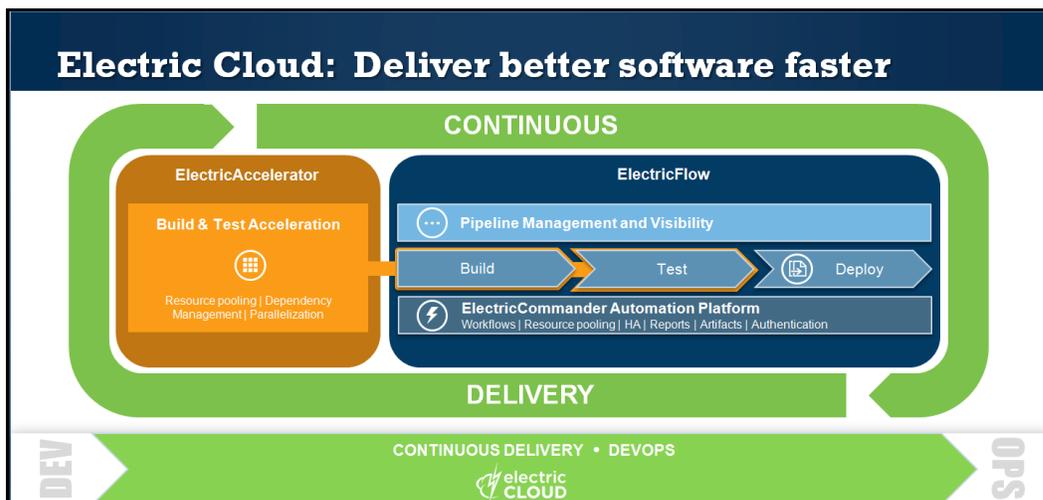
## ElectricFlow Overview

ElectricFlow™ accelerates the continuous delivery of software. It provides domain-specific capabilities to orchestrate build, test, deploy, and release processes across many delivery pipelines. ElectricFlow includes ElectricCommander, a powerful platform that natively integrates these domain specific capabilities to provide Enterprise level continuous delivery. ElectricFlow makes software delivery processes repeatable, visible, scalable, and efficient.

ElectricCommander® is a powerful automation platform that provides distributed DevOps teams shared control and visibility into infrastructure, tool chains, and processes. ElectricCommander accelerates and automates the software delivery process, enabling agility, availability, predictability, and security across many build-test-deploy pipelines.

The following diagram shows how ElectricFlow provides continuous delivery.

- ElectricFlow provides management and visibility of the build, test, deploy, and release phases. It provides tracking and pipelines for continuous delivery using deployment application processes.
- ElectricFlow is built on the proven ElectricCommander platform, which automates the software build and release process using procedures.
- ElectricAccelerator performs the build and test phases of the continuous delivery process using procedures.



## Terminology

You use ElectricFlow to orchestrate processes for continuous delivery of software. You design applications that automate tasks and orchestrate processes in the build, test, deploy, and release phases of your software life cycle.

**Note:** Within ElectricFlow, the terms *deploy* and *run* are synonymous. When you deploy an application in ElectricFlow, you run the ElectricFlow application to produce your software or application.

The following objects and concepts apply to ElectricFlow:

- **Application**—*Application* can refer to one of these entities:
  - Within ElectricFlow—The application that you design and run (deploy) to produce your software for continuous delivery across different pipelines. The application consists of application and component processes. To run the application, you must have application processes with components and component processes.
  - Using ElectricFlow—The software, system or application that you build, test, install, implement, release, and deploy using ElectricFlow. This is the end product of using ElectricFlow.
- **Application inventory**—Where ElectricFlow shows the status of an application when it is run. You can see when the application ran, what processes were successfully run or failed, and the errors.
- **Application process**—A group of steps or actions in an application within ElectricFlow. You can re-use and rerun the process more than once.
- **Application tier**—A logical grouping of components in an ElectricFlow application. A tier can have more than one component. The application must have at least one configured tier with one component.
- **Automation platform**—A software program that automatically runs tasks and procedures and manages the objects in them. ElectricFlow, a continuous delivery solution, is built on the ElectricCommander automation platform.
- **Change history**—A record of the historical states of the system and the changes between them.
- **Change tracking**—How ElectricFlow tracks the changes to tracked entities in objects including applications, procedures, workflows, workspaces, resources, and project-owned components such as library components and records a *change history*.
- **Component**—An object based on a specific version of an artifact. A component is the result of running an ElectricFlow application and has details, properties, and access control settings. It can be used by other ElectricFlow applications, or it can be the part of the continuous delivery solution. You add a component to an application tier.
- **Component process**—A group of steps or actions for a component. You can re-use and rerun these processes more than once.
- **Deploy**—*Deploy* can refer to these activities:
  - Within ElectricFlow—Running the application that you designed in ElectricFlow. The end product is your software, system, or application.

You design the environment, the application, its application and component processes, map the application tiers to the environment tiers, and run the application in the environment.

**Note:** Within ElectricFlow, the terms *deploy* and *run* are synonymous. When you deploy an application in ElectricFlow, you run the ElectricFlow application to produce your software or application..
  - Using ElectricFlow—All the processes or actions to develop and run your software in its environment, including building, testing, implementing, installing, configuring, making changes, and releasing.
- **Environment**—Within the ElectricFlow system, the location to which a resource is assigned and where the application runs.

- **Environment inventory**—How ElectricFlow represents the state of an environment at any point in time during the life cycle of your software. It tracks the application processes that were run, the results of these processes, the version of the deployed software artifacts, the resources used in the processes, and process errors.
- **Environment tier**—A logical grouping of resources in an ElectricFlow environment. A tier can have more than one resource. The ElectricFlow application must have at least one configured tier with one resource.
- **Inventory tracking**—How ElectricFlow tracks what is built, tested, deployed, and released in continuous delivery solutions. For more information, see the application inventory and environment inventory.
- **Launch pad**—A starting point on the Home page that you select to design the application for continuous delivery.
- **Process branching**—A way to run job steps in an application or component process on a conditional basis in ElectricFlow.
- **Process type**—Select one of the following parameters to configure the inventory tracking on an application or component process in ElectricFlow:
  - **Deploy**—Select this to enable inventory tracking. The ElectricCommander server tracks artifacts deployed to environments. This is the default.
  - **Undeploy**—Select this to configure the ElectricCommander platform to remove the environment inventory record after the first job step in a component process runs successfully.
  - **Other**—Select this to disable inventory tracking.
- **Resource**—An agent machine configured to communicate with the ElectricCommander platform. The application runs on the resource.
- **Run**—*Run* can refer to these activities:
  - Within ElectricFlow—Running the application that you designed. The end product is your software, system, or application.

**Note:** Within ElectricFlow, the terms *deploy* and *run* are synonymous. When you deploy an application in ElectricFlow, you run the ElectricFlow application to produce your software or application..
  - Using ElectricFlow—All the processes or actions to use software in its environment, including implementing, installing, configuring, debugging, troubleshooting, and releasing.
- **Snapshot**—A version of an application with specific artifact versions and the state of the application at any point in time.
- **Tier map**—Mapping of the application that you want to run to the environments to which resources are assigned. To run an application, you map one application tier to one or more environment tiers and must have at least tier map.

## ElectricFlow Features

Consider applying these features when you design applications and run them in ElectricFlow:

- Change tracking

ElectricFlow now tracks changes to *tracked* objects in objects including applications, artifacts, components, application and component process steps, jobs, resources, and workflows and records a *change history* of the historical states of the system and the state changes.

- Snapshots

You can now design and save a version of your application with specific artifact versions to rerun later. When you save a snapshot of your application, you ensure that the components that were developed and tested are the same as those in the released version of the application.

You can redeploy the snapshot any time you want.

- Applications

You design and run applications consisting of application processes.

An application process consists of components and component processes.

Components are based on artifacts that are defined and managed by the ElectricCommander platform.

Components, and the artifacts on which they are based, are deployed by applications within ElectricFlow.

You can use credentials and impersonation to control who can run applications and where the applications are run.

- In ElectricFlow, you can attach one or more credentials to component or application process steps.
- You can attach only one impersonation credential to an application process, component process, or a process step.
- When you attach an impersonation credential in ElectricFlow, it specifies the user who can run the application and the environment in which the application runs.
- When you attach an impersonation credential in the ElectricCommander platform, it specifies the account (user) that can run the job or job step. If you want to specify another condition, you have to attach another credential to the object.

- Environments

An environment is where you run an application.

In an environment, a resource is assigned to an environment tier.

Resources are defined and managed in the ElectricCommander platform.

- Tier maps

A tier map is a mapping application tiers to environment tiers for a specific application and environment.

Before you run an application, you must select a tier map.

You can map an application tier to only one environment tier.

An environment tier can be mapped to more than one application tier.

- Email notifications

You can easily customize the email notification that the system sends when an application, application process, or process step succeeds or fails.

When you set the recipients of email notifications, you can specify users or groups, who are defined and managed in the ElectricCommander platform, and email addresses.

- Running Applications, viewing the results, and troubleshooting

When running an application, you can deploy part or all it by selecting full deploy, partial deploy (only selected objects and versions), smart deploy (only objects that have not been deployed to specific resources or artifact versions or to new resources).

You can schedule an application to run automatically on a daily, weekly, or monthly basis. Use the Application Inventory to track and view the results of deploying the application.

The Application inventory shows the state of the application at a point in time. Use the Environment Inventory to track and view details of the objects in the environment that were deployed by the application.

The Environment inventory shows the state of the application at a point in time. When you run an application, you can also track and view the artifacts in the environment inventory.

While developing an application, you can save different versions of the application as snapshots and compare them to refine and troubleshoot the application.

#### Related Topics:

- [Change Tracking](#)
- [Credentials and Impersonation in ElectricFlow](#)
- [Designing and Running Applications](#)
- [ElectricFlow User Interfaces](#)
- [Email Notifications in ElectricFlow](#)
- [Inventory Tracking](#)
- [Process Branching](#)
- [Snapshots](#)
- [Running Applications in ElectricFlow](#)

## What You Can Do With ElectricFlow

ElectricFlow allows you to model the process to reliably and repeatedly deploy (build, test, implement, and release) your software in a continuous delivery cycle. The benefits of modeling your process are:

- Repeatability—You can run the process many times and get consistent and reliable results each time.
- Flexibility—You can model and deploy one process with different requirements and inputs, running conditions, and flavors of output. You can also easily revise your model to quickly respond to the changes in the software and its environment.

- Ability to deploy your software more than once—You can deploy your process many times, knowing that it will run properly for various inputs, conditions, and output types.

The process model is what connects applications to environments in ElectricFlow. It provides the logical structure on which you design and run the ElectricFlow application.

In ElectricFlow, you can design an application that works for more than one deployment scenario. For example, you can deploy software releases for Linux, Javascript, and Windows using the same application. You can also specify who can run specific processes in the application and the environment in which the processes are run without designing and running an application for each scenario.

When you design the application and the environments in which you want to run it, you can apply the following:

- Process branching

You can design a process with more than one path. Decisions about the next step are made while the process runs.

ElectricFlow uses conditions (success, failure, or custom) to determine the path through an application or component process.

- Credentials and impersonation

You can control who runs an application or component process step and where that step runs (environment) using credentials.

You can also attach one impersonation credential to an application process, a component process, or a process step to allow a user to have higher order privileges for the only that part of the process or process step.

You can set email notifications that are sent to users or groups who are interested in or need to know the application results. Notifications are sent when the application, application process, or process step succeeds or fails. You can select recipients by specifying the user name, which is defined and managed in the ElectricCommander platform, or the user's email address. It is easy to customize the text for the email notification in the ElectricFlow UI.

For more reliable and repeatable software deployments, ElectricFlow 5.3 provides change tracking and snapshots.

- Change Tracking

ElectricFlow now tracks changes to *tracked* objects in objects including applications, artifacts, components, application and component process steps, jobs, resources, and workflows and records a *change history* of the historical states of the system and the state changes.

You can use Change Tracking in these scenarios:

- When you are debugging a failed job or want to more information about a component, see the change history for the changes relevant to that object.
- When you search for specific change history records, filter the records by time frame, change type, entity type, or developer.
- Revert changes to an object or to an objects and its children.
- When you want to determine the differences between objects, export them at various levels in the object hierarchy.

- **Snapshots**

You can now design and save a version of your application with specific artifact versions to rerun later, even if the current version of the application has changed. When you save a snapshot of your application, you ensure that the components that were developed and tested are the same as those in the released version of the application. You can redeploy the snapshot any time you want.

You can create and save more than one snapshot for different deployment scenarios. You can view the snapshots in the snapshot list. From this list, you can manage all your snapshots, compare two snapshots, or get more information about them.

Comparing snapshots helps you to deploy applications with reliable and repeatable results for the continuous delivery of software releases. You can build and test applications using snapshots, and do not have to design a new application each time.

You can use snapshots to refine and optimize an application that fits your deployment scenario and ensure that this version is developed, tested, and released.

During the development, testing, and implementation of your application, you can run the application several ways, depending on what you want to do and where you are in the continuous delivery cycle.

- **Full deploy:** Deploy all of the artifacts in the application.
- **Partial deploy:** Deploy some of the artifacts by specifying the objects of the application to deploy or by specifying the artifact versions of specific objects.
- **Smart deploy:** Deploy only the artifacts that have not been deployed to a resource or specific versions of artifacts or have not been deployed to new resources.
- **Based on a schedule:** Deploy the application a one-time, daily, weekly, or monthly basis.
- **Snapshot:** Select a snapshot to deploy.

Go to the Application Inventory and the Environment Inventory to view the progress of the application as it runs and the results of the application. They show detailed application results that can be used to troubleshoot the application.

- In the Application Inventory, you can get information about the application, its application processes, components, and job steps and about the status of these objects.
- In the Environment Inventory, you can get more information about the environment, the applications mapped to it, number of deployed artifacts in the applications, where the artifacts are deployed, and the status of these objects. You can also create and compare snapshots.

**Related Topics:**

- [Change Tracking](#)
- [Credentials and Impersonation in ElectricFlow](#)
- [Designing and Running Applications](#)
- [ElectricFlow User Interfaces](#)
- [Email Notifications in ElectricFlow](#)
- [Inventory Tracking](#)
- [Process Branching](#)

- [Snapshots](#)
- [Running Applications in ElectricFlow](#)

## Credentials and Impersonation in ElectricFlow

ElectricFlow uses credentials and impersonation to control who can run applications and where the applications are run (environment). The user settings and credentials are defined and managed in the ElectricCommander platform.

You can attach one or more credentials to component or application process steps. However, you can attach only one impersonation credential to these objects:

- Component process
- Component process step
- Application process
- Application process step

You can design and run an application that applies credentials and impersonation depending on the ElectricFlow user permissions and that runs in one or more environments.

This example describes how you can attach impersonation credentials to an application in ElectricFlow. ElectricFlow applies credentials differently than the ElectricCommander platform.

An application has these credentials:

- Development (dev)
- Quality Engineering (qe)
- Production (prod)

Users have these privileges:

- User A is allowed to run the application to build a MySQL database in any environment and has admin privileges.
- User B is allowed to only run the application in the Dev and QE environments and is not trusted in the production environment.

You can use impersonation to give User A higher-order privileges than other users. For each environment, set a property using a reference such as `_${myEnvironment}/dbConfigName` and define a unique value, which can be passed as a credential to a process or process step.

- In the development (dev) environment, set `dbConfigName = dbUser_dev`.
- In the quality engineering (QE) environment, set `dbConfigName = dbUser_qe`.
- In the production (prod) environment, set `dbConfigName = dbUser_prod`.

User permissions determine what the user is allowed to do.

To use impersonation in the ElectricCommander platform, the credentials are more complicated. They would include three unique credentials for the environments and additional credentials for various user and environment combinations, such as User A and the development environment.

### Related Topics:

- [Adding Credentials](#)
- [Application Processes](#)
- [Component Processes](#)

## Email Notifications in ElectricFlow

ElectricFlow uses email notifications at the application, application process, and process step levels. The user settings are defined and managed in the ElectricCommander platform.

In ElectricFlow, email notifications work as follows:

- The notifications are triggered based on how the job finishes (the onCompletion event) and on the success or failure of the job.
- You set email notifications at the application, application process, and process step levels.
- You specify users, groups, or email addresses as recipients of the notifications.
- You can also target notifications at specific environments.
- You can enable or disable notifications at the application, application process, or process step level.

ElectricFlow provides two default templates for success and failure. You can also create new email templates to meet your needs. The templates have a name, subject, body, and type content that are stored as properties in ElectricFlow.

### Related Topics:

- [Application Notifications Wizard](#)
- [Setting Email Notifications](#)
- [Selecting and Editing Email Messages](#)

## Running Applications in ElectricFlow

You can run applications for full or partial deployments. You can also run applications based on schedules or snapshots.

ElectricFlow supports these options:

- Full Deploy—The system deploys all the objects (including application processes, components, and artifacts) in the application.
- Smart Deploy—The system deploys only the artifacts that have not been deployed to a resource or specific versions of the artifacts or have not been deployed to new resources.
- Partial Deploy—The system deploys only objects that you select.
- Partial Deploy with specific artifact versions—The system deploys only the artifacts with selected versions.
- Schedule—You can create schedules to run applications on a one-time, daily, weekly, or monthly basis.

- Snapshot–Select a snapshot to deploy.

**Note:** If you select a snapshot and modify it, it is no longer a snapshot and is now another version of the of application. To make it a snapshot, select and save it as a snapshot.

You can run applications by doing more than one deployment type, such as smart deploy and a partial deploy with specific artifact versions or only a smart deploy.

These scenarios describe how you might deploy your application.

When you create an application, you first run it in full-deploy mode. By default, Smart Deploy is disabled the first time that you run an application.

- If the application is not successfully run, you can rerun parts of it to troubleshoot the application or component processes that failed.

You can do a partial deploy and rerun the application with only the objects that failed.

You can also do a partial deploy only with specific versions of artifacts to determine if one or more specific versions of artifacts are causing problems.

- Later, after you successfully run the application, you can rerun parts of the application when new versions of artifacts or new resources are available.
- When a new version of an artifact is released, you can deploy only the artifact by selecting the new version and doing a partial deploy.
- When you add artifacts and resources to the application, you deploy the new artifacts to resources and specific versions of selected artifacts to the new resources, a combination of smart deploy and partial deploy with specific artifact versions.

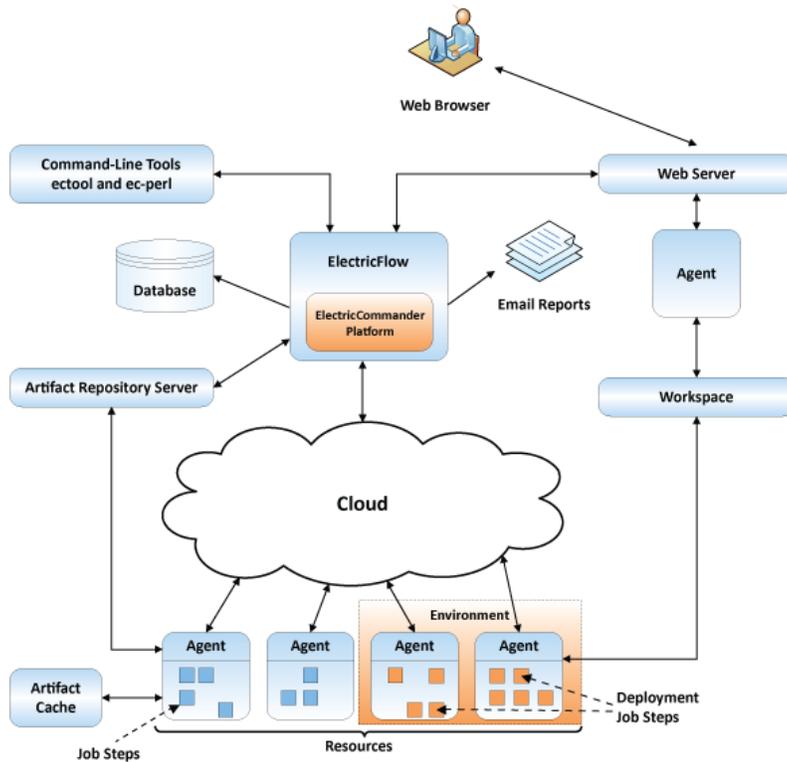
#### Related Topics:

- [Different Ways to Run Applications](#)
- [Running Applications](#)

## Local ElectricFlow System

In this local configuration:

- The ElectricCommander server manages resources, issues commands, and generates reports.
- Applications, components, environments, and job steps are defined in ElectricFlow.
- Job steps are executed on resources in the defined environments.
- An underlying database stores commands, metadata, and log files.



If you are only evaluating ElectricFlow, the ElectricFlow software, the database, the ElectricCommander server, the web server, and the repository server can reside on the same machine.

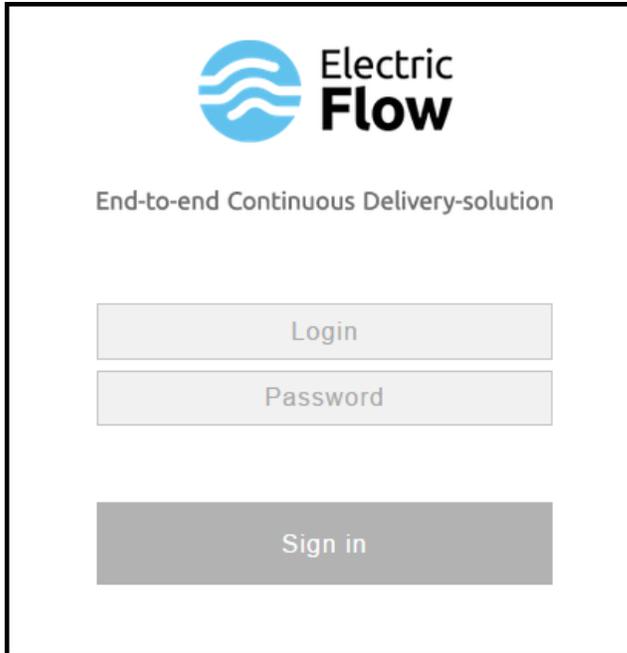
In a production environment, the database should reside on a separate machine from the ElectricCommander server to prevent performance issues. It is acceptable for the Commander server, web server, and repository server to reside on the same machine in a local configuration, but not required.

## Logging in to ElectricFlow

1. Enter `http://<commander-server>/flow` in a browser window, where `<commander-server>` is the ElectricCommander server IP address or host name.

For example, when you go to `https://123.123.1.222/flow/`, the landing page opens.

Example:



The image shows a login form for ElectricFlow. At the top is the ElectricFlow logo, which consists of a blue circle with three white wavy lines inside, followed by the text "Electric Flow" in a bold, sans-serif font. Below the logo is the tagline "End-to-end Continuous Delivery-solution". The form contains three input fields: a "Login" field, a "Password" field, and a "Sign in" button. The "Login" and "Password" fields are light gray, while the "Sign in" button is a darker gray.

**IMPORTANT:** For a new installation, the default admin account user name is *admin* and the password is *changeme*. You should change the default admin password as soon as possible.

2. Enter a user name and password.
3. Click **Login**.

The ElectricFlow Home page opens.

**Related Topics:**

[Home Page](#)

## ElectricFlow User Interfaces

The following topics describe how to use the ElectricFlow user interfaces (UIs) that you use to design and run applications in ElectricFlow.

As you use ElectricFlow, remember that these terms have different meanings within ElectricFlow and when you use ElectricFlow to deploy your software or application:

### Application

- Within ElectricFlow—The application that you design and run (deploy) to produce your software for continuous delivery across different pipelines.
- Using ElectricFlow—The software, system or application that you build, test, install, implement, release, and deploy using ElectricFlow. This is the end product of using ElectricFlow.

### Deploy

- Within ElectricFlow—Running the application that you designed in ElectricFlow. The end product is your software, system, or application. Deploy is a synonym of run in ElectricFlow.
- Using ElectricFlow—All the processes or actions to develop and run your software in its environment, including building, testing, implementing, installing, configuring, making changes, and releasing.

### Run

- Within ElectricFlow—Running the application that you designed. The end product is your software, system, or application. Run is a synonym of deploy in ElectricFlow.
- Using ElectricFlow—All the processes or actions to use software in its environment, including implementing, installing, configuring, debugging, troubleshooting, and releasing.

### Related Topics:

[Designing and Running Applications](#)

## ElectricFlow Icons

These icons appear in the ElectricFlow user interface (UI).

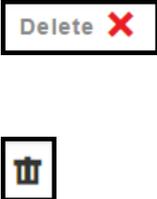
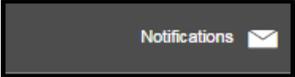
For more information about how they work in the UI, see the [ElectricFlow UI](#) topics.

Icon	Meaning	How to Use It
	Add application or Add environment	Click this to add an application or environment from the Applications List or the Environments List.

Icon	Meaning	How to Use It
	Add application process	In the Applications Designer, click this to add an application process.
	Add component process	In a component, click this to add a component process.
	Add resource	Click this to add a resource to an environment tier.
	Add step	<p>Click this to add a step to an application or component process.</p> <p>When you click it, an undefined step appears. Drag and drop the step to where you want to add it in the process.</p> <p>For more information, see the <a href="#">"Using the Drag and Drop Method to Add Process Steps"</a> section.</p>
	Add tier	Click this to add a tier in the Applications Designer or the Environments Designer.
	Add tier component	<p>This appears in lower right corner of an application tier.</p> <p>Click it to add a component to the application tier.</p>
	Add tier map	This appears in the Applications Designer.

Icon	Meaning	How to Use It
	Application	An application consists of one or more application processes, which consists of one or more components and component processes.
	Application or component process	This appears in the Application Process Designer or the Component Process Designer.
 	Artifact version	<p>This appears in the Environment Inventory.</p> <p>The number next to the icon is the artifact version number.</p>
	Automations	<p>This appears on the landing page.</p> <p>Click this to go to the ElectricCommander platform.</p>
	Breadcrumbs	<p>This example shows a breadcrumb in the Environments Designer.</p> <p>Breadcrumbs also appear in application tiers and components and in environment tiers and resources and start with <i>object type/object name/...</i></p> <p>In this context, a breadcrumb specifying a component process has this format:  <i>Application/&lt;application name&gt;/&lt;component name&gt;</i>.</p>

Icon	Meaning	How to Use It
	Change Alert	When you compare snapshots, this icon appears next to objects that have changed.
	Change History	<p>Click this to open the Change History page.</p> <p>When you hover over this icon, this tooltip appears: Track Changes.</p>
	Changes	<p>The tooltip message varies depending on the object that changed.</p> <p>For example, the tooltip can be "Component property has changed" or "Artifact version has changed."</p>
 	Compare snapshots from a list	<p>This is available (enabled) when the snapshot list has two or more snapshots.</p> <p>Click this to open a full-screen window and view two snapshots next to each other.</p> <p>The default is to have the most recent snapshot on the left and the previous snapshot on the right.</p> <p>Go to <a href="#">Snapshot List</a> for more information.</p>
	Component	Add a component to an application tier in the Applications Designer.

Icon	Meaning	How to Use It
	Component Processes	<p>This appears in the lower right corner of a component in an application tier.</p> <p>Click the down arrow next to the number to see the existing component processes.</p>
	Delete	<p>This deletes the selected applications in the Applications List or environments in the Environments List when the X is red.</p>
	Edit	<p>Edit the object in which this icon appears, such as a component, resource, or process step.</p>
	Email notifications	<p>Click this to configure email notifications for the selected application.</p>
	Email notification, add	<p>Click this to add an email notification to the selected application, application process, or process step in the "Application notification / edit" wizard.</p>
	Email notification, delete	<p>Click this to delete an email notification in the selected application, application process, or process step in the "Application notification / edit" wizard.</p>
	Email message template	<p>Click this to open the drop-down list of templates that you can use for an email notification setting.</p>

Icon	Meaning	How to Use It
	Environment status	When the status is <i>Enabled</i> and the green button appears, you can run the application when a tier map is configured.
	Environment	An environment consists of environment tiers to which resources are assigned.
	Expand	Click this to see all the changes to an object in the Change History.
	Export	Export the object changes and save them as an XML file.
	Hide Hide running process	Click this to hide details of the application.
	Inventory	Click this to open the environment inventory.
	Menu	<p>This is referred to as the main menu in the Home page, Applications List, and the Environments List. For more information, see <a href="#">Main Menu</a>.</p> <p>This icon also appears in Applications Designer and the Environments Designer. In application tiers with components and environment tiers with resources, click it to show details about the object.</p>

Icon	Meaning	How to Use It
	New component	<p>Click the plus sign to configure a new component.</p> <p>After you click the first component in a tier, this icon disappears.</p>
	Number of tier maps for an application	<p>In the Applications Designer, click the down arrow next to the number to see the list of existing tier maps.</p> <p>Click the "Add tier map" icon to add a tier map to the application.</p>
	Number of application processes in an application	<p>In the Applications Designer, click the down arrow next to the number to see the list of existing application processes.</p> <p>Click the "Add process" icon to add an application process to the application.</p>
	Number of steps in a component or application process	In the Component Process Designer or Applications Process Designer, click the "Add step" icon to add a step to the process.
	Number of tiers in an application or environment	<p>In the Applications Designer or Environments Designer, click the down arrow next to the number to see the list of existing tier.</p> <p>Click the "Add tier" icon to add a tier in the Applications Designer or the Environments Designer.</p>

Icon	Meaning	How to Use It
	Process step	This appears in the Applications Process designer, the Component Process designer, Application Inventory, and Environment Inventory.
	Resource	This appears in the Application Inventory and Environment Inventory.
	Revert	Click this to revert the object to a previous version.
	Run process	In the Applications List, click this icon to run the application when it is green.
	Schedule	When you click this in the Applications List, you can add or view schedules for the application.
	Search	Click this to open the "Change History - Search" dialog box.  When you hover over this icon, this tooltip appears: Launch Change History Search.

Icon	Meaning	How to Use It
	Select (toggles between All and None)	<p>This appears in the Applications List, Environments List, and snapshot list.</p> <p>To delete all of the objects in the list, click <b>All</b>. <b>All</b> changes to <b>None</b>, and all of the objects in the list are selected.</p> <p>Then click the red <b>X</b> next to <b>Delete</b> to delete all the objects.</p>
	Select All	Click this to see all the changes to an object in the Change History.
	Settings	<p>This is also referred to the <i>Administrative settings menu</i>.</p> <p>Click this icon to open a list of links to the administration area in the ElectricCommander platform.</p> <p>For more information, see the "<a href="#">Administrative Settings Menu</a>" topic.</p>
	Show component processes	In a component, click the down arrow to view the existing component processes.
	Snapshot	<p>This appears in the Applications List, and in the Snapshot wizards and pages in ElectricCommander 6.0 and later.</p> <p>You can create, deploy, manage, and compare process snapshots.</p>

Icon	Meaning	How to Use It
	Tier map	This is a mapping of application tiers to environment tiers.  You must map each application tier to an environment tier.
	View details	This appears in the Applications List or Environments List.  Click this to go to the Applications Designer or the Environments Designer.
	View View running process	This appears in several pages, dialog boxes, and wizards including the Applications List, the Applications Inventory, the Environment Inventory, and the Application notifications wizard.  Click this to show the details of the application.
	View path	Click this to see the path to the object in the change history.

## Landing Page

**How to get to here:** Enter `http://<commander-server>/flow` in a browser window, where <commander-server> is the ElectricCommander server IP address or host name.

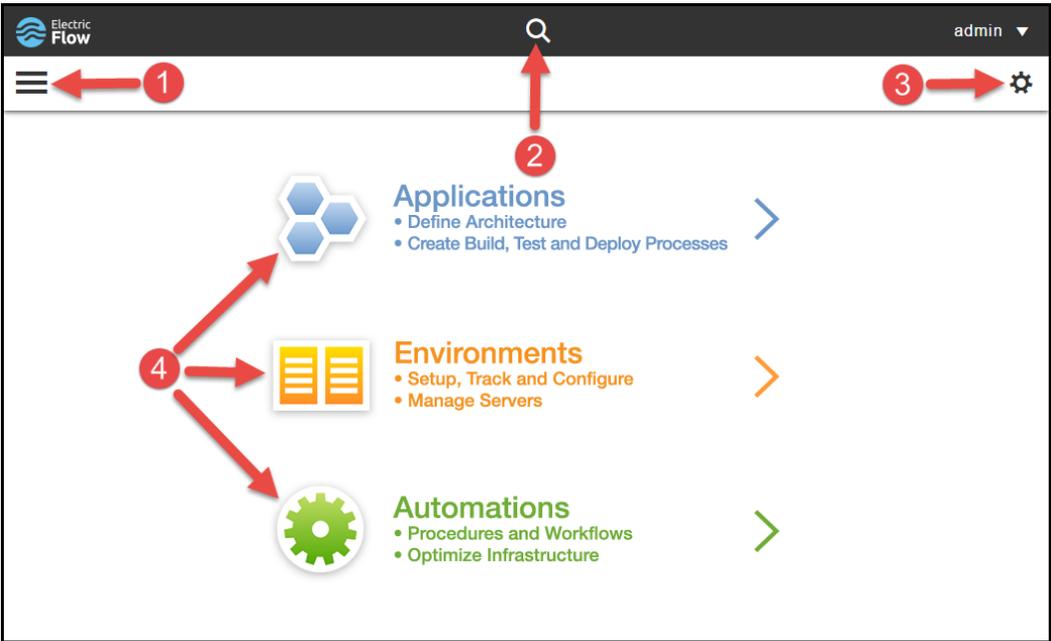
To log in, go to the landing page:



## Home Page

**How to get to here:** From the landing page, enter your user name and password and click **Login**.

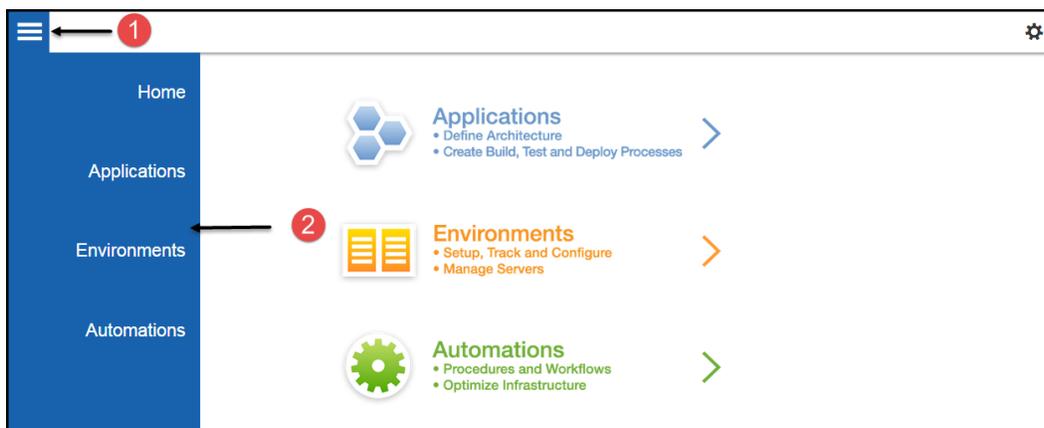
From the Home page, you can design the application for your continuous delivery solution.



1	Main menu—When you click on this icon, a list of destinations appears, which matches the list of launch pads on the Home page.
2	Launch Change History Search—Click this to open the "Change History - Search" dialog box.
3	Administrative settings for ElectricFlow—When you click on this icon, links to the administrative area in the ElectricCommander platform appear.
4	<p>Launch pads—Click one to start designing your application.</p> <ul style="list-style-type: none"> <li>• <b>Applications</b>—Model applications by defining the application architecture and designing component and application processes. Click <b>Applications</b> to open the Applications List page.</li> <li>• <b>Environments</b>—Model environments in which applications are run by assigning and managing resources. Click <b>Environments</b> to open the Environments List page.</li> <li>• <b>Automations</b>—Define procedures and workflows for your software development life cycle in the ElectricCommander platform. Click <b>Automations</b> to open the Home UI in the ElectricCommander platform.</li> </ul>

## Main Menu

**How to get here:** From the Home page, click on the main menu icon.



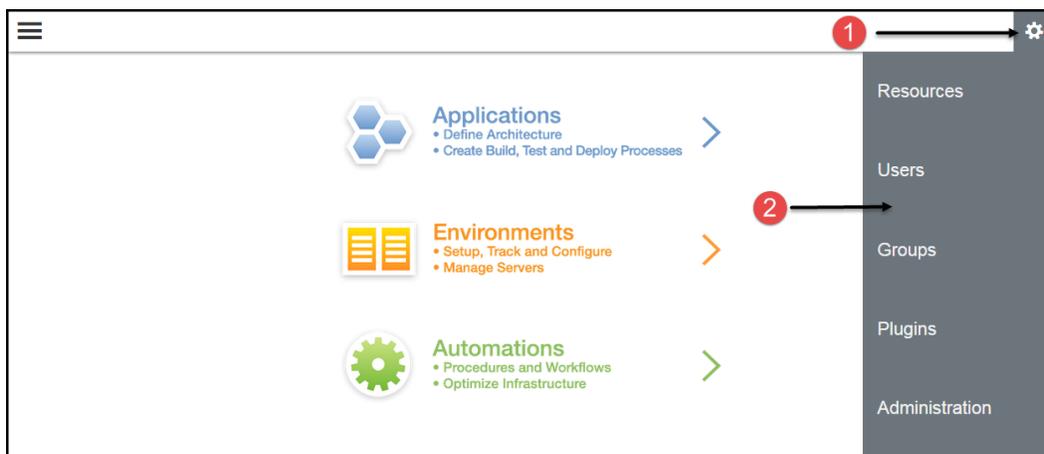
1	Main menu icon
2	Main menu

A list of destinations appears.

- **Home**—Click **Home** to close the main menu and return to the Home page.
- **Applications**—Click **Applications** to open the Applications List page.
- **Environments**—Click **Environments** to open the Environments List page.
- **Automations**—Click **Automations** to open the Home UI in the ElectricCommander platform.

## Administrative Settings Menu

**How to get here:** From the Home page, click on the administrative settings menu icon. A list of links to the administration area in the ElectricCommander platform appears.



1	Administrative settings menu icon
2	Administrative settings menu with links to the ElectricCommander platform: <ul style="list-style-type: none"> <li>• <a href="#">Resources</a></li> <li>• <a href="#">Users</a></li> <li>• <a href="#">Groups</a></li> <li>• <a href="#">Plugins</a></li> <li>• <a href="#">Administration</a></li> </ul>

When you click a link, you go to one of the following places in the ElectricCommander platform:

**Resources**—You can view and manage ElectricFlow resources on the Resources page in the ElectricCommander platform. For more information about the Resources page, go to the ElectricCommander Help > Web Interface Help > Resources.

The screenshot shows the 'Resources' page in the ElectricCommander interface. The top navigation bar includes 'Home', 'Projects', 'Jobs', 'Workflows', 'Cloud', 'Artifacts', 'Search', and 'Administration'. The user is logged in as 'System Administrator'. The page title is 'Resources - Current License Usage: 0 of 100 Managed Hosts; 0 of 100 Proxied Hosts'. A sidebar on the left contains 'Filters' for 'Resource Filters' with options for 'Quick Search', 'Status', 'Both Enabled/Disabled', 'Pools', 'Hosts', 'Step Limit', and 'Proxy Agent'. The main table has the following data:

Name	Pools	Job Status	Description	Zone	HTTPS & Host	Step Load
local	default	✓	Local resource created during installation.	default	deploy-main-uat.electric-cloud.com	0 of Unlimited

**Users**—You can view and manage ElectricFlow users on the Users page in the ElectricCommander platform. For more information about the Users page, go to the ElectricCommander Help > Web Interface Help > Users and Groups.

The screenshot shows the 'Users' page in the ElectricCommander interface. The top navigation bar includes 'Home', 'Projects', 'Jobs', 'Workflows', 'Cloud', 'Artifacts', 'Search', and 'Administration'. The user is logged in as 'System Administrator'. The page title is 'Users'. A sidebar on the left contains 'Filter', 'Maximum Results: 100', and 'Include Inactive Users: '. The main table has the following data:

User Name	Repository	Location	Real Name	Email	Actions
admin	Local		System Administrator		Edit   Delete

**Groups**—You can view and manage ElectricFlow groups on the Groups page in the ElectricCommander platform. For more information about the Groups page, go to the ElectricCommander Help > Web Interface Help > Users and Groups.

The screenshot shows the 'Groups' page in the ElectricCommander interface. The top navigation bar includes 'Home', 'Projects', 'Jobs', 'Workflows', 'Cloud', 'Artifacts', 'Search', and 'Administration'. The user is logged in as 'System Administrator'. The page title is 'Groups'. A sidebar on the left contains 'Filter', 'Maximum Results: 100', and 'Include Inactive Groups: '. The main table has the following data:

Name	Repository	Location	Actions
DefectTrackingAdmins	Local		Edit   Delete
SCHAdmins	Local		Edit   Delete

**Plugins**—You can view and manage ElectricFlow plugins in the ElectricCommander platform. For more information about the Plugin Manager, go to the ElectricCommander Help > Web Interface Help > Plugins Manager.

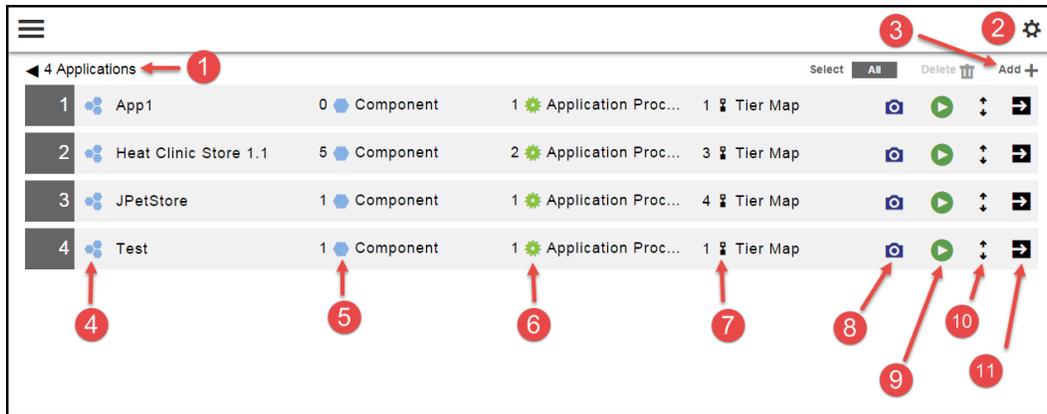
Plugin Label	Author	Version	Category	Description	Actions
EC-ALM	Electric Cloud	1.0.5.65837 (promoted)	Test	Integrates HP-ALM Test server into Electric Commander	Demote   Configure   Help   Uninstall
EC-AgentManagement	Electric Cloud	1.0.1.69048 (promoted)	System	Centralized Agent Management procedures	Demote   Help   Uninstall
EC-Ant	Electric Cloud	2.0.7.65837 (promoted)	Build	Java build tool	Demote   Help   Uninstall
EC-Artifact	Electric Cloud	1.0.6.69996 (promoted)	System	Provides an interface for artifact version publish and retrieve operations	Demote   Uninstall
EC-CIManager	Electric Cloud	1.2.0.65837 (promoted)	System	Continuous Integration Manager	Demote   Configure   Help   Uninstall
EC-CSH	Electric Cloud	2.0.1.65837 (promoted)	Scripting/Shell	Integrates CSH Scripting Shell Tool into Electric Commander	Demote   Help   Uninstall
EC-CheckStyle	Electric Cloud	2.0.4.65837 (promoted)	Code Analysis	Integrates CheckStyle code coverage tools into Electric Commander	Demote   Help   Uninstall
EC-Clover-CMD	Electric Cloud	2.0.2.65837 (promoted)	Code Analysis	Integrates Clover command-line tools into Electric Commander	Demote   Help   Uninstall
EC-CoBERTura	Electric Cloud	2.0.5.65837 (promoted)	Code Analysis	Integrates CoBERTura code coverage tools into Electric Commander	Demote   Help   Uninstall
EC-CodeScanner	Electric Cloud	2.0.3.65837 (promoted)	Code Analysis	Integrates Carbide's CodeScanner static code analysis into Electric Commander	Demote   Help   Uninstall
EC-Core	Electric Cloud	1.2.3.67304 (promoted)	System	Electric Cloud Plugin Core	Demote   Uninstall
EC-Coverity	Electric Cloud	1.0.1.65837 (promoted)	Code Analysis	Integrates Coverity code analysis tools into Electric Commander	Demote   Help   Uninstall
EC-CppCheck	Electric Cloud	2.0.3.65837 (promoted)	Code Analysis	Integrates CppCheck static code analysis into Electric Commander	Demote   Help   Uninstall
EC-CppNcss	Electric Cloud	2.0.3.65837 (promoted)	Code Analysis	Integrates CppNcss static code analysis into Electric Commander	Demote   Help   Uninstall
EC-DBI	Electric Cloud	2.0.0.65837 (promoted)	Database	Integration for the Perl DBI / ODB interface	Demote   Configure   Help   Uninstall
EC-DefectTracking	Electric Cloud	1.1.7.65837 (promoted)	Defect Tracking	Base plugin for all Defect Tracking plugins	Demote   Uninstall
EC-DefectTracking-ALM	Electric Cloud	1.0.4.65837 (promoted)	Defect Tracking	ALM plugin	Demote   Help   Uninstall
EC-DefectTracking-Bugzilla	Electric Cloud	2.0.6.65837 (promoted)	Defect Tracking	Bugzilla plugin	Demote   Help   Uninstall
EC-DefectTracking-CQ	Electric Cloud	2.0.4.65837 (promoted)	Defect Tracking	ClearQuest plugin	Demote   Help   Uninstall
EC-DefectTracking-Fortress	Electric Cloud	2.0.5.65837 (promoted)	Defect Tracking	Fortress plugin	Demote   Help   Uninstall
EC-DefectTracking-JIRA	Electric Cloud	2.1.0.65837 (promoted)	Defect Tracking	JIRA plugin	Demote   Help   Uninstall

**Administration**—You can view and manage objects such as groups, users, licenses, and servers in the ElectricCommander platform. The following UI shows the Event Log in the ElectricCommander platform. For more information, go to the ElectricCommander Help > Web Interface Help.

## Applications List

**How to get here:**

- From the Home page, click the **Applications** launch pad.
- From the main menu on the Home page, click the **Applications** destination.



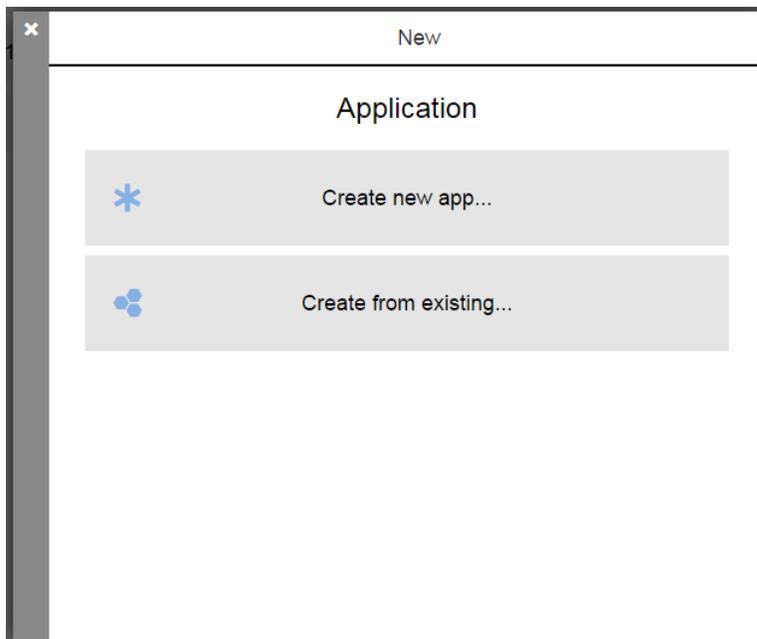
1	Breadcrumb, which shows the total number of applications in your ElectricFlow system.
2	Administrative settings menu Click this icon to open a list of links to the administration area in the ElectricCommander platform. These links are the same as the links in the administrative settings menu on the Home page.
3	Add new application Click this icon to design an application.
4	Application icon
5	Component icon
6	Process icon
7	Tier map icon
8	Snapshot icon Click this icon to take a new snapshot when you run the application or to manage the snapshots.
9	Run process Click this icon to run the application when the button is green. This is available only when an application process is defined.
10	View running process Click this icon to see more details of the running process.
11	View details Click this icon to go to the Applications Designer.

#### Related Topics:

- [ElectricFlow Icons](#)
- [Home Page](#)

## New Applications

**How to get here:** In the Applications List, click the "Add new application" icon in the upper right corner. The New Application dialog box opens.



### Related Topics:

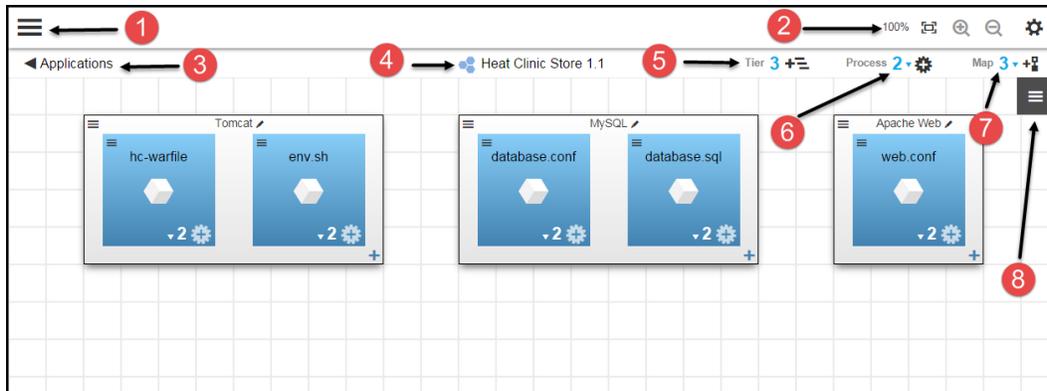
- [ElectricFlow Icons](#)
- [Applications List](#)

## Applications Designer

**How to get here:** From the Applications List page, select an application.

Applications consist of application processes and components grouped into tiers.

To run applications, you must configure tier maps between application tiers and environment tiers.



The following information is on this page:

1	Main menu
2	This information is view only. ElectricFlow automatically adjusts the page settings to show all the tiers in the application. For example, if all the tiers do not fit on the page at 100% magnification, ElectricFlow reduces the magnification until all the tiers appear on the page.
3	Breadcrumbs
4	Application icon and application name
5	Number of tiers in the application and the tier icon Click the tier icon to add a tier to the application.
6	Number of application processes and the process icon Click the down arrow to select an existing application process. Click the process icon to add an application process to the application.
7	Number of tier maps and the tier map icon Click the tier-map icon to add an application tier-to-environment tier mapping for the application.

8	<p>Applications menu icon</p> <p>Click this icon to view the application details.</p> <ul style="list-style-type: none"> <li>• Details–The name and description of the object.</li> <li>• Properties–The properties in the object.</li> <li>• Notifications–The email notifications configured for the object.</li> <li>• Access Control–The access control configuration in the ElectricCommander platform for the object.</li> <li>• Track Changes–The change history of the object.</li> <li>• Delete–Delete this object.</li> </ul>
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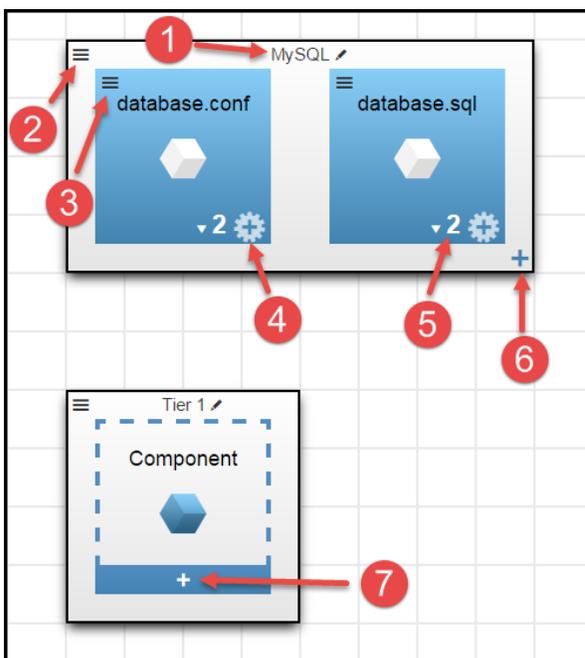
**Related Topics:**

- [ElectricFlow Icons](#)
- [Application Tiers](#)
- [Tier Maps](#)

## Application Tiers

**How to get here:** From the Applications Designer, choose an application tier.

Application tiers consist of components with component processes.

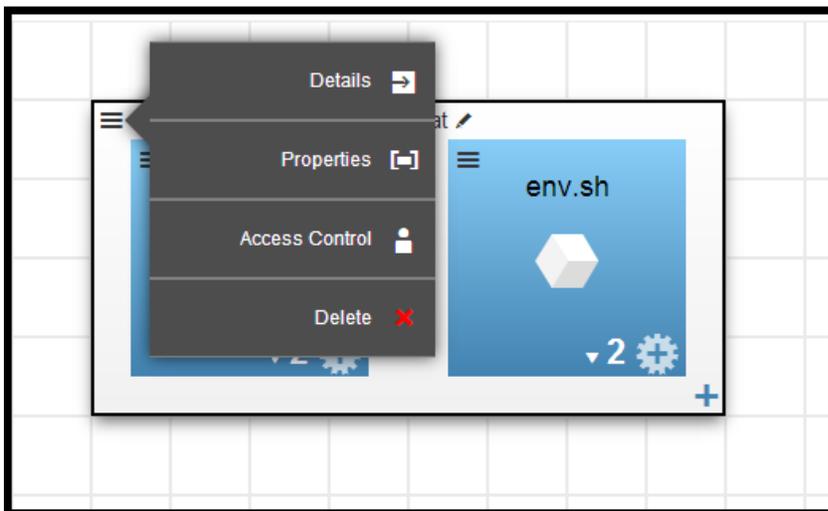


The following information is available in an application tier.

1	Tier name and edit icon Click the edit icon to edit the tier name and description.
2	Application tier menu icon Click this icon to view the application tier details.
3	Component menu icon Click this icon to view the component details.
4	"Add component process" icon Click this icon to add a component process.
5	"Component processes" icon that shows the number of existing component processes Click the down arrow to see a list of component processes.
6	"Add tier component" icon Click this icon to add a component to the tier.
7	New component icon (+), which disappears after the first component is configured. Click this icon to configure a new component.

## Application Tier Details

In an application tier, when you click the application tier menu icon, the application tier details menu appears.



You can click on one of the following for more information about the application tier:

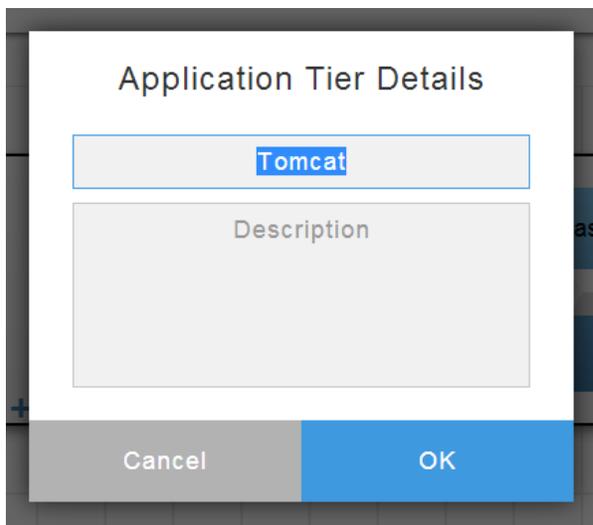
- **Details**
- **Properties**
- **Access Control**
- **Delete**

When you click **Delete**, every object for the tier, including the tier and all the resources in it, is deleted.

### Details

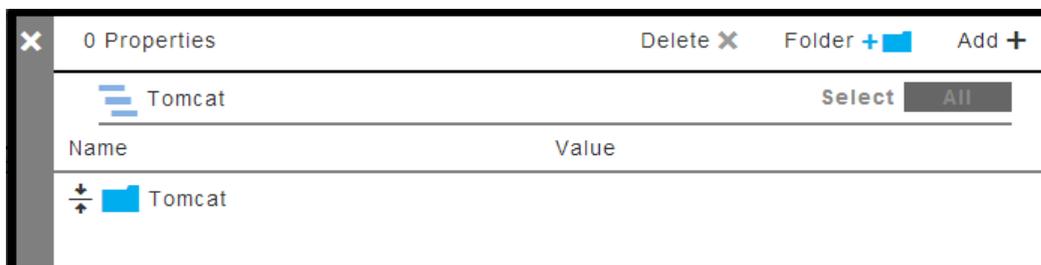
When you click **Details** in the tier details menu, the Application Tier Details dialog box appears. It also appears when you click the pencil icon.

In the Application Tier Details dialog box, you can change the name of the application tier and add a description about it.



### Properties

When you click **Properties** in the application tier details menu, the application tier Properties dialog box appears. You can set the properties for the application tier.

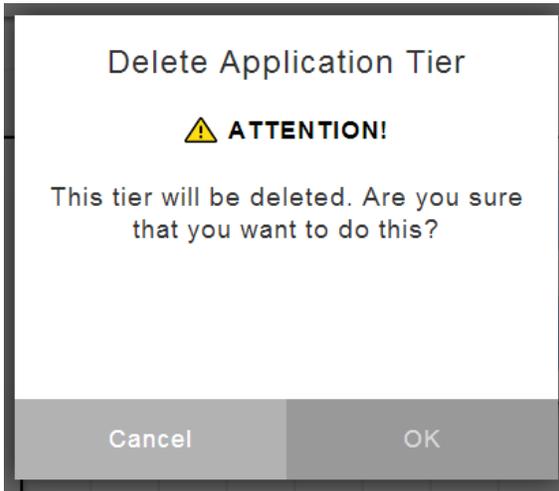


### Access Control

When you click **Access Control** in the application tier details menu, you go to the Access Control page for the tier in the ElectricCommander platform. You can set privileges for the objects in your application.

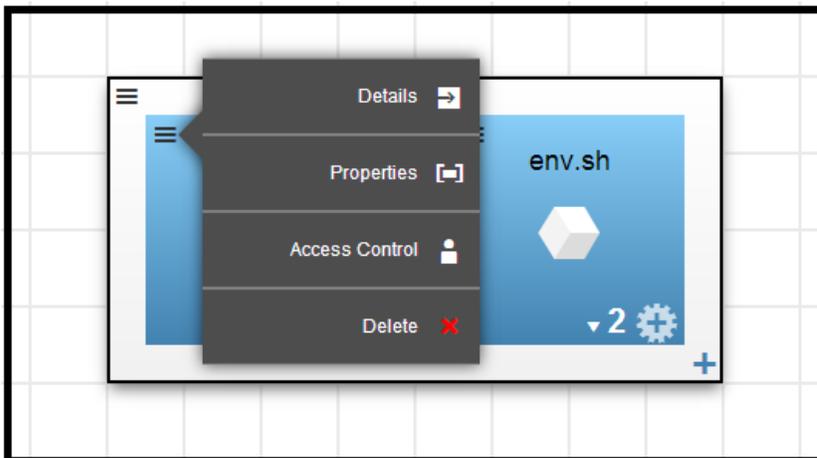
## Delete

When you click **Delete** in the application tier details menu, the Delete Application Tier dialog box appears.



## Component Details

In a component, when you click the component menu icon, the component details menu appears.



You can click on one of the following for more information about the component tier:

- **Details**
- **Properties**
- **Access Control**
- **Delete**

When you click **Delete**, every object for the component is deleted.

## Details

When you click **Details** in the component details menu, the Component Details dialog box appears. The information that appears depends on your system.

In this example, the Content Location is EC-Artifact, the default plugin. In the Artifact field, *com.mycompany.heatclinic:config* comes from the Artifact Repository in the ElectricCommander platform.

1	Content Location of the component
2	Component details that vary depending on the Content Location

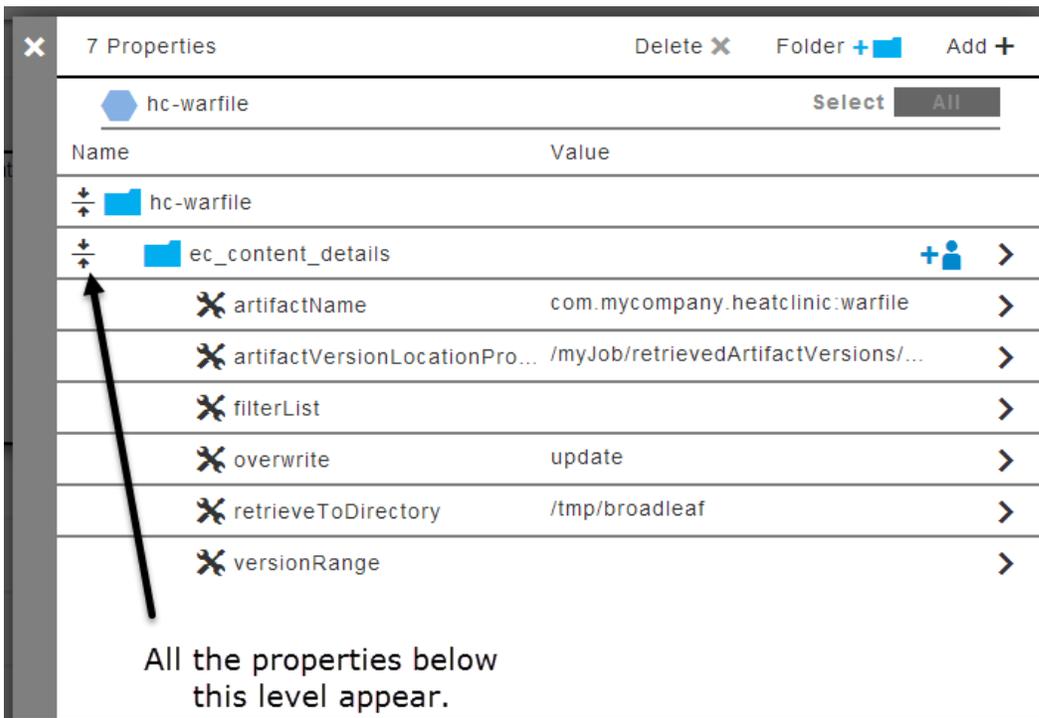
## Properties

When you click **Properties** in the component details menu, the component Properties dialog box appears. You can set the properties for the component.

In this example, only the top-level component details appear.



When you click the expansion icon, all the properties below the current level appear.



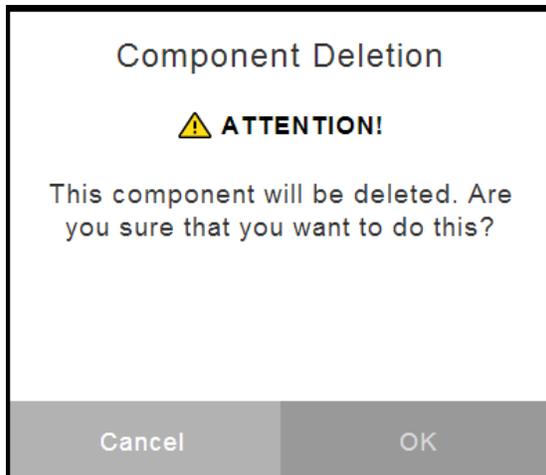
### Access Control

When you click **Access Control** in the component details menu, the Access Control page for the component in the ElectricCommander platform opens. You can set privileges for the objects in your application.

For more information, go to the ElectricCommander Help > Overview > Access Control.

### Delete

When you click **Delete** in the component details menu, the Component Deletion dialog box appears.

**Related Topics:**

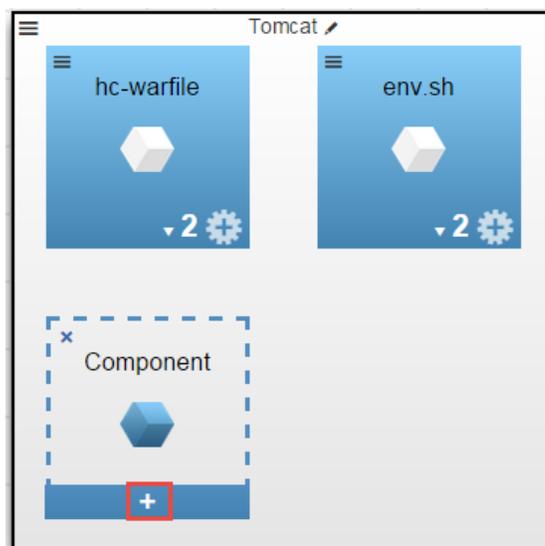
- [ElectricFlow Icons](#)
- [Applications Designer](#)

## Configuring Components

**How to get to here:** From the Applications Designer, choose an application tier.

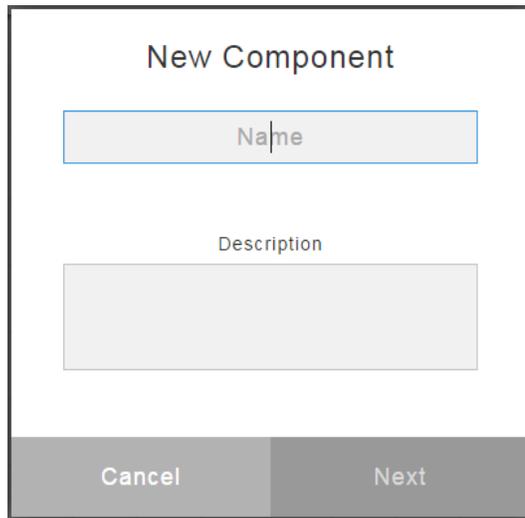
1. Click the "Add tier component" icon to add a component.

A new component appears in the application tier.



2. Click the icon below the component (\*) to configure it.

The New Component dialog box appears.



The image shows a dialog box titled "New Component". It contains a text input field labeled "Name" with a blue border and a cursor. Below it is a larger text input field labeled "Description". At the bottom, there are two buttons: "Cancel" on the left and "Next" on the right, both in a grey bar.

3. Enter the name and optional description of the component and click **Next**.

The Component Details dialog box appears.

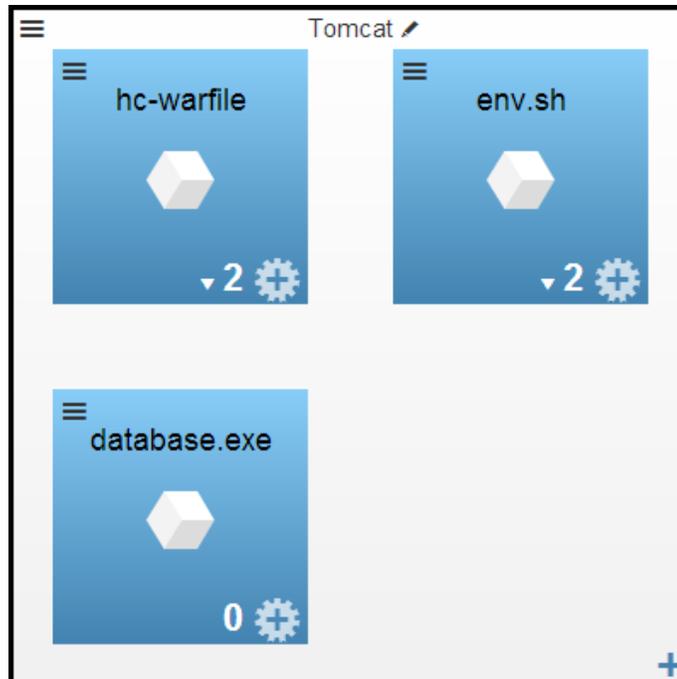
4. Select the Content Location, enter the component details, and click **OK**.

In the following example:

- The new component is named `database.conf`.
- The Content Location is `EC-Artifact`, the default plugin.
- In the Artifact field, `com.mycompany.heatclinic:config` comes from the Artifact Repository in the ElectricCommander platform.

1	Content Location of the component
2	Component details that vary depending on the Content Location

The Applications Designer now appears with the new component.

**Related Topics:**

- [ElectricFlow Icons](#)
- [Applications Designer](#)

## Component Processes

**How to get here:**

- When designing a new component process:

From the Applications Designer, select a component in an application tier and click the "Add component process" icon.

The Component Process Details dialog box appears.

**New**

**Component Process Details**

Description

---

Credential
0
Optional >

---

Workspace

default
▼

Optional

Time limit

0

Seconds
▼

Optional

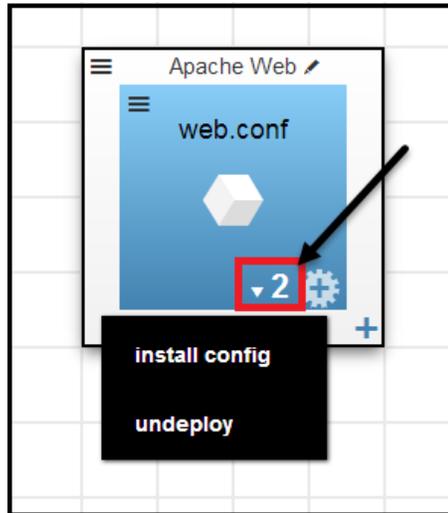
Cancel
OK

Field	Description and How to Set It
Name	Name of the process step
Description	Description of the process step
Process Type	<p>Type of process. The default is <b>Deploy</b>.</p> <p>To set the process type:</p> <ol style="list-style-type: none"> <li>1. Click the <b>Type</b> field to select the process type.</li> <li>2. Select one of these options: <ul style="list-style-type: none"> <li><b>Deploy</b>—Enables inventory tracking. The ElectricCommander server tracks the artifacts deployed to environments.</li> <li><b>Undeploy</b>—The next time that the process is run, the ElectricCommander server removes information about the artifacts deployed to environments.</li> <li><b>Other</b>—Disables inventory tracking.</li> </ul> </li> </ol>

Field	Description and How to Set It
Credential	<p>An object consisting of a user name and password that ElectricFlow uses to run a process step.</p> <p>The dialog box displays the number of credentials for the process step, which are the same credentials that you use with procedures, steps, and schedules in the ElectricCommander platform.</p> <p>You can only impersonate one credential. To set the process type, see <a href="#">Adding Credentials</a>.</p>
Workspace	<p>Area in the disk space where the files and results of the job step are stored.</p> <p>To set the workspace, click the <b>Workspace</b> field to open a drop-down list of workspaces in the ElectricCloud platform and select a workspace.</p> <p>For more information about workspaces, go to the ElectricCommander Help &gt; Workspaces and Disk Management. To set the workspace, click Workspace to open a drop-down list of workspaces in the ElectricCloud platform. Select a workspace, and click OK.</p>
Time limit	<p>Maximum length of time that the step is allowed to run. After the time specified, the step is aborted,</p> <p>To set the time limit, enter the time and select the unit of time: seconds, minutes, or hours.</p> <p>For information about time limits for procedure job steps in the ElectricCommander platform, go to the ElectricCommander Help &gt; API Commands.</p>

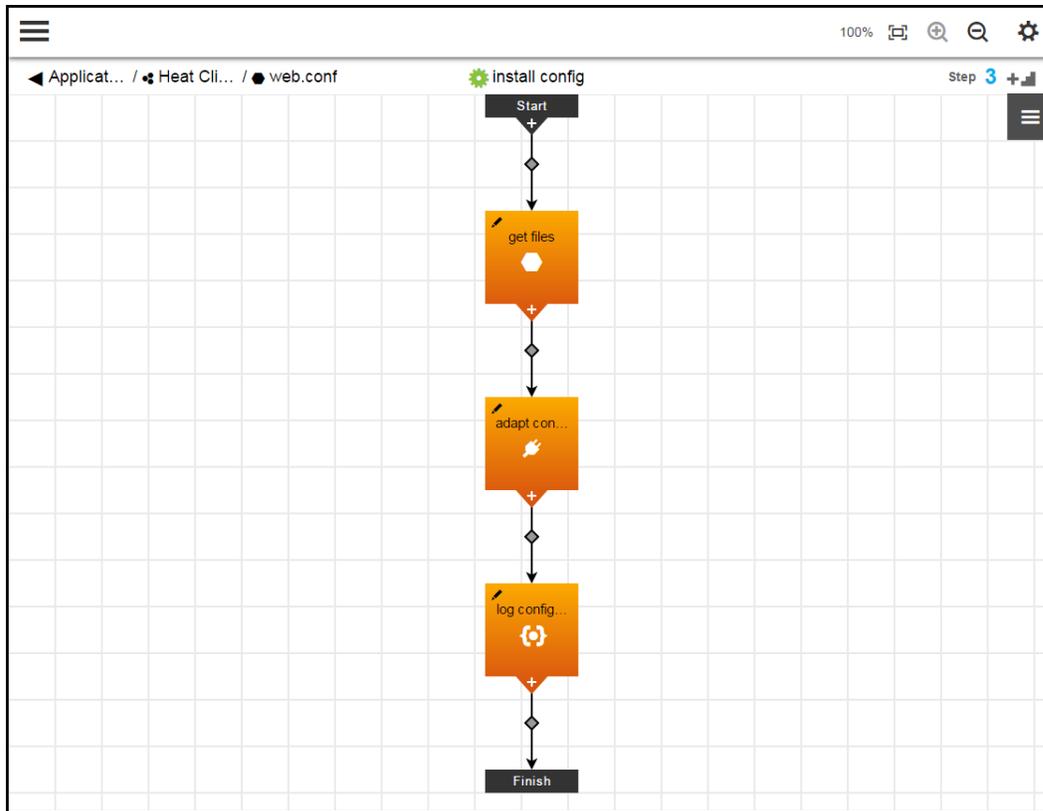
- When selecting an existing component process:

From the Applications Designer, select a component in an application tier, click the "Show component process" icon, and select a component process in the drop-down list.



In this example, the component process called "install config" has been selected.

The steps in the component process appear in the Component Process Designer.



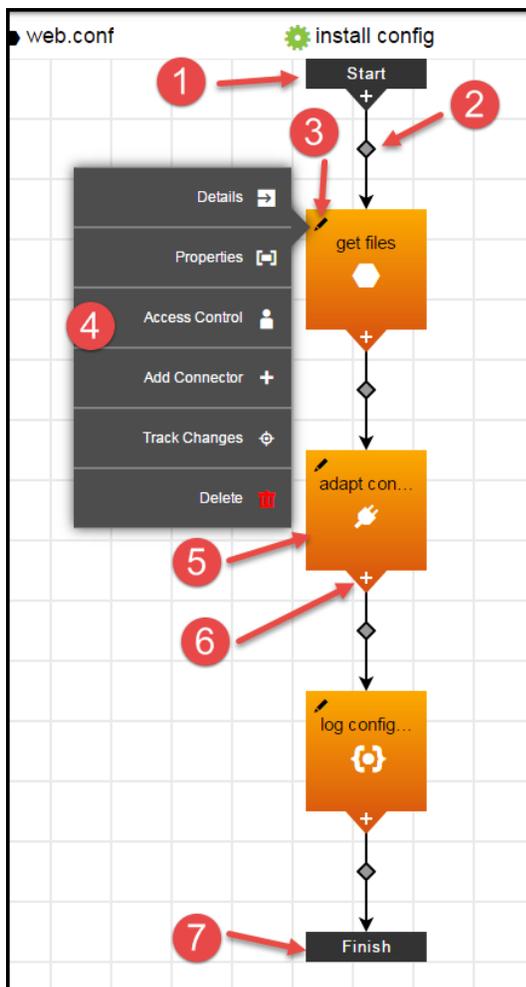
The Component Process Designer has these objects:



1	Main menu
2	This information is view only. ElectricFlow automatically adjusts the page settings to show all the tiers in the application. For example, if all the tiers do not fit on the page at 100% magnification, ElectricFlow reduces the magnification until all the tiers appear on the page.
3	Breadcrumbs specifying the object type/application name/component name
4	Name of the component process
5	Number of steps in the process with the "Add step" icon

6	<p>Component process menu icon</p> <p>Click this icon to view the component process details.</p> <ul style="list-style-type: none"> <li>• Details–The name and description of the object.</li> <li>• Properties–The properties in the object.</li> <li>• Access Control–The access control configuration in the ElectricCommander platform for the object.</li> <li>• Track Changes–The change history of the object.</li> <li>• Delete–Delete this object.</li> </ul>
---	--

The component process has these objects:



1	Start of the process
---	----------------------

2	<p>Connector icon</p> <p>Click this icon to configure the branching conditions between two process steps.</p> <p>The default is <b>Always</b>, which means always go to the next step.</p>
3	<p>Process-step details icon</p> <p>Click this icon to open the process-step details menu.</p> <ul style="list-style-type: none"> <li>• Details–The name and description of the object.</li> <li>• Properties–The properties in the object.</li> <li>• Access Control–The access control configuration in the ElectricCommander platform for the object.</li> <li>• Add Connector–Add a connector from the selected step.</li> <li>• Track Changes–The change history of the object.</li> <li>• Delete–Delete this object.</li> </ul>
4	Process-step details menu
5	Component process step
6	Click the plus (+) sign to add a step below the current step.
7	End of the process

**Related Topics:**

- [ElectricFlow Icons](#)
- [Applications Designer](#)
- [Adding Credentials](#)
- [Configuration Guidelines for Process Branching](#)

## Application Processes

**How to get here:**

- When designing a new application process

From the Applications Designer, click the "Add application process" icon.

The Application Process Details dialog box appears.

**New**

---

**Application Process Details**

Description

---

Credential 0 Optional >

---

Workspace  Optional

Time limit   Optional

CancelOK

Field	Description and How to Set It
Name	Name of the process step
Description	Description of the process step
Credential	<p>An object consisting of a user name and password that ElectricFlow uses to run a process step.</p> <p>The dialog box displays the number of credentials for the process step, which are the same credentials that you use with procedures, steps, and schedules in the ElectricCommander platform.</p> <p>You can only impersonate one credential.</p>

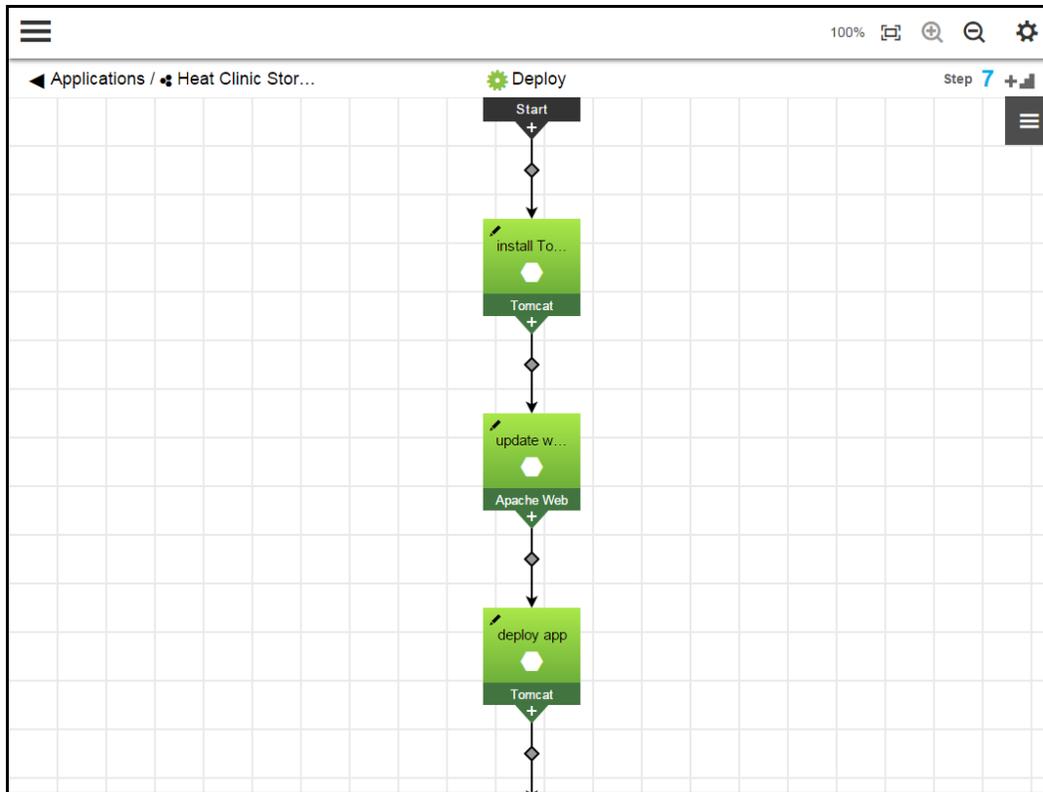
Field	Description and How to Set It
Workspace	<p>Area in the disk space where the files and results of the job step are stored.</p> <p>To set the workspace, click the <b>Workspace</b> field to open a drop-down list of workspaces in the ElectricCommander platform and select a workspace.</p> <p>For more information about workspaces, go to the ElectricCommander Help &gt; Workspaces and Disk Management.</p> <p>To set the workspace, click Workspace to open a drop-down list of workspaces in the ElectricCommander platform. select a workspace, and click <b>OK</b>.</p>
Time limit	<p>Maximum length of time that the step is allowed to run. After the time specified, the step is aborted,</p> <p>To set the time limit, enter the time and select the unit of time: seconds, minutes, or hours.</p> <p>For information about time limits for procedure job steps in the ElectricCommander platform, go to the ElectricCommander Help &gt; API Commands.</p>

- When selecting an existing component process

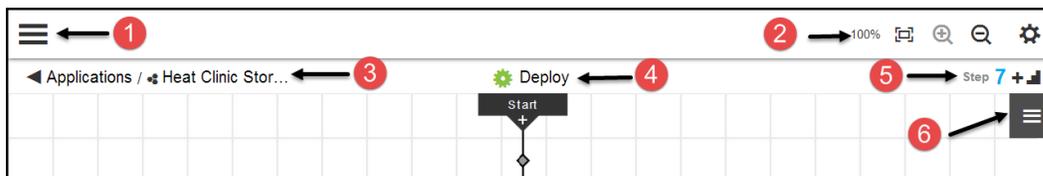
From the Applications Designer, click the down arrow next to the number of application processes, and select an application process in the drop-down list.

This example shows an application process called "Deploy." The application process has the same objects as the component process.

The steps in the application process appear in the Application Process Designer.



The Applications Process Designer has these objects:



1	Main menu
2	This information is view only. ElectricFlow automatically adjusts the page settings to show all the tiers in the application. For example, if all the tiers do not fit on the page at 100% magnification, ElectricFlow reduces the magnification until all the tiers appear on the page.
3	Breadcrumb specifying the object type/application name
4	Name of the application process
5	Number of steps in the process with the "Add step" icon

6	<p>Application process menu icon</p> <p>Click this icon to view the application process details.</p> <ul style="list-style-type: none"><li>• Details–The name and description of the object.</li><li>• Properties–The properties in the object.</li><li>• Access Control–The access control configuration in the ElectricCommander platform for the object.</li><li>• Track Changes–The change history of the object.</li><li>• Delete–Delete this object.</li></ul>
---	--

**Related Topics:**

- [ElectricFlow Icons](#)
- [Applications Designer](#)
- [Adding Credentials](#)
- [Component Processes](#)

## Designing Process Steps

This example describes how to designing the process steps for application and component processes using commands.

The procedure to define process steps for application processes and component processes is the same except for the dialog boxes to configure the process steps.

- To design steps in an application process, go to the Application Process Designer.

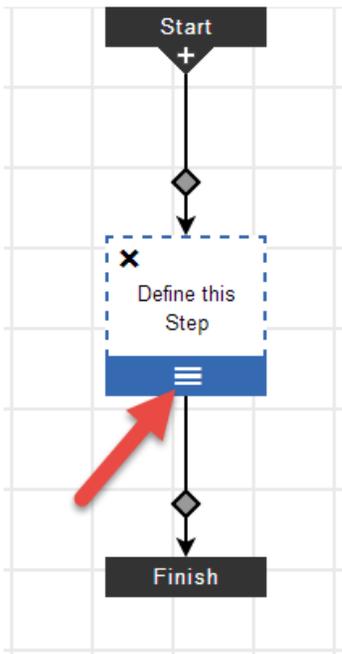
**How to get to there:** From the Applications Designer, click the "Add application process" icon > enter the information about the process in the Application Process Detail dialog box > click **OK**.

- To design steps in a component process, go to the Component Process Designer.

**How to get to there:** From the Applications Designer, select a component > click the "Add component process" icon > enter information about the process in the Component Process Detail dialog box > click **OK**.

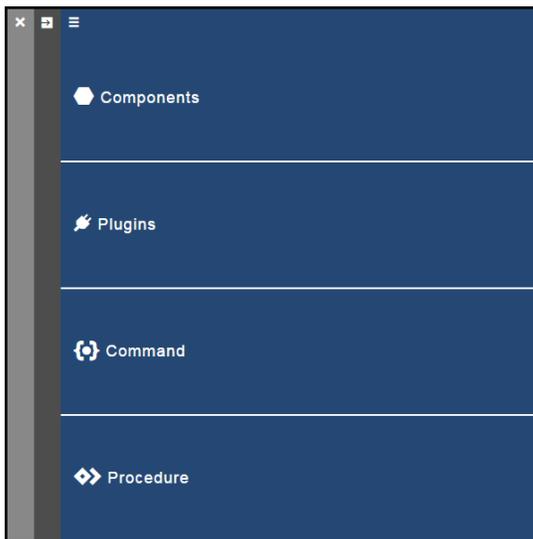
**Note:** The following procedure applies to both application and components. The objects in the Application Process Designer and the Component Process Designer are the same.

1. In the new process step, click the icon below "Define this Step" to define it.



The Component Process Step or Application Process Step wizard appears.

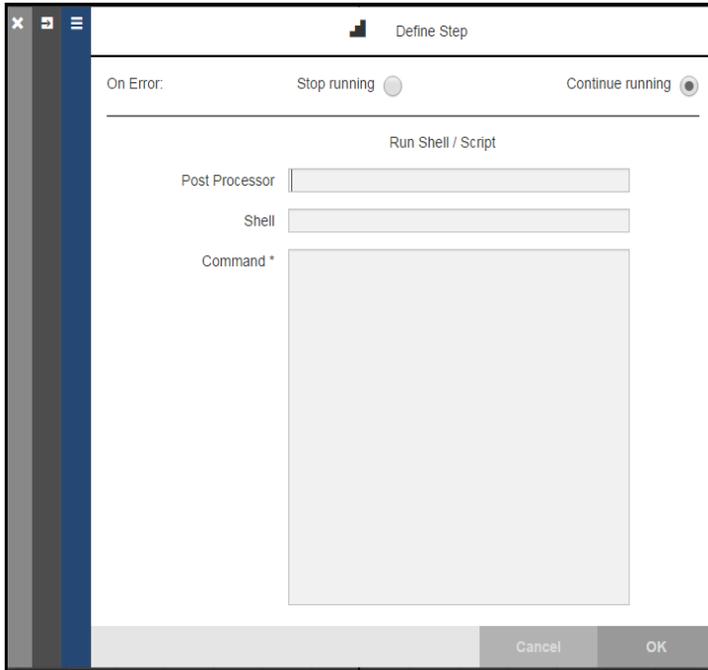
2. Enter information about the process step.
3. Click **Next**. The process step wizard appears.



- Click **Command** to define the process step with a command.

The Define Step wizard appears.

**Note:** Starting in ElectricFlow 5.1, you can enter a postprocessor command for a component or application process step in the Post Processor field.



- Enter the following information:

- Select **stop running** or **continue running** in the **On Error** field.
  - When you select **stop running**, ElectricFlow stops the job if an error occurs.  
This step overrides the process branching condition. When an error occurs, the process aborts regardless of the branching condition.
  - When you select **continue running**, ElectricFlow continues to run the job if an error occurs.  
This setting overrides the process branching condition. When an error occurs and the branching condition is Failure, the process continues to the next step.
- Enter the postprocessor command in the **Post Processor** field.
- Enter the shell name in the Shell field.
- Enter the command in the Command field.

- Click **OK**.

The step now appears in the process.

#### Related Topics:

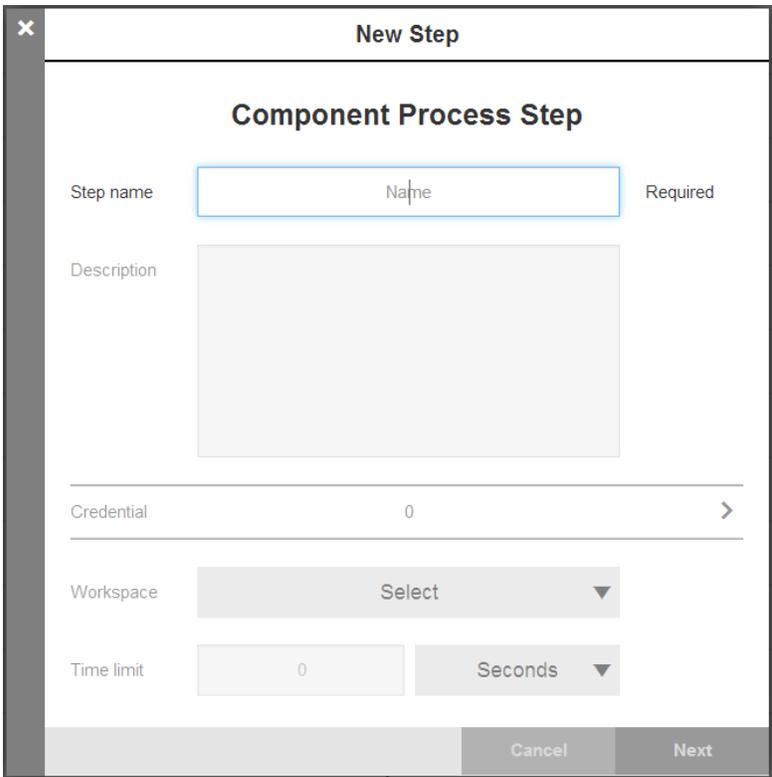
- [ElectricFlow Icons](#)
- [Applications Designer](#)
- [Application Processes](#)
- [Component Processes](#)
- [Component and Application Process Steps](#)

## Component and Application Process Steps

This topic describes Component Process Step and Application Process Step dialog boxes that you use to design component and application process steps.

### Designing a New Process Step

**How to get to the Component Process Step dialog box:** From the Applications Designer, choose application tier > select a component > click the "Add component process" icon in the component.



The screenshot shows a dialog box titled "New Step" with a close button (X) in the top-left corner. The main title of the dialog is "Component Process Step".

The form contains the following fields and controls:

- Step name:** A text input field containing the word "Name". To its right is the label "Required".
- Description:** A large, empty text area.
- Credential:** A text input field containing the number "0" and a right-pointing arrow icon.
- Workspace:** A dropdown menu with the text "Select" and a downward-pointing arrow.
- Time limit:** A text input field containing the number "0" and a dropdown menu with the text "Seconds" and a downward-pointing arrow.

At the bottom of the dialog, there are two buttons: "Cancel" and "Next".

**How to get to the Application Process Step dialog box:** From the Applications designer, click the "Add application process" icon in the upper right corner of the page.

The screenshot shows a dialog box titled "New" with the subtitle "Component Process Details". The dialog contains the following fields and controls:

- Name:** A text input field with the placeholder text "Name".
- Description:** A large text area for entering a description.
- Deploy:** A dropdown menu currently showing "Deploy".
- Credential:** A text input field containing "0", with an "Optional >" label to its right.
- Workspace:** A dropdown menu currently showing "default", with an "Optional" label to its right.
- Time limit:** A text input field containing "0", a dropdown menu showing "Seconds", and an "Optional" label to its right.

At the bottom of the dialog are two buttons: "Cancel" and "OK".

## Designing an Existing Process Step

**How to get to the Component Process Step dialog box:** From the Applications Designer, choose application tier > select a component > click the "Show component process" icon in the component.

This dialog box is similar to the dialog box for a new step except that it has the "Edit Step" label on the top.

**How to get to the Application Process Step dialog box:** On the Applications Designer, click the process icon next to the number of application processes in the upper right corner of the page.

The Application Process Step dialog box is the same as the dialog box for a new step except that it has the "Edit Step" label on the top.

## Setting Parameters in the Process Step Dialog Boxes

### IMPORTANT:

When you impersonate a credential, make sure that the impersonated user has the absolute path to the bin directories in the \$PATH environment.

If you define a process step with a command, you must enter the absolute path in the **Post Processor** and **Shell** fields in the Define Step dialog box.

Enter information in the following fields:

- **Name** (required)—Name of the process step.
- **Description**—Description of the process step.
- **Tier** (application process step only)—Application tier in which the process step runs.

- **Credential**—An object consisting of a user name and password that ElectricFlow uses to determine who or what runs a process step.

The field displays the number of credentials for the process step, which are the same credentials that you use with procedures, steps, and schedules in the ElectricCommander platform.

To set the credentials, click > to open the Credentials dialog box.

You can add only one credential for impersonation, and you can attach more than one credential to the process step.

If a credential is set to impersonate, you can also attach that credential to the process step.

For more information about credentials, go to the ElectricCommander Help > Credentials and User Impersonation.

- **Workspace**—Area in the disk space where the files and results of the job step are stored.

To set the workspace, click the **Workspace** field to open a drop-down list of workspaces in the ElectricCloud platform and select a workspace.

For more information about workspaces, go to the ElectricCommander Help > Workspaces and Disk Management in the *ElectricCommander Help*.

To set the workspace, click Workspace to open a drop-down list of workspaces in the ElectricCommander platform, select a workspace, and click **OK**.

- **Time limit**—Maximum length of time that the step is allowed to run. After the time specified, the step is aborted.

To set the time limit, enter the time and select the unit of time: seconds, minutes, or hours.

For information about time limits for procedure job steps in the ElectricCommander platform, go to the ElectricCommander Help > API Commands.

#### Related Topics:

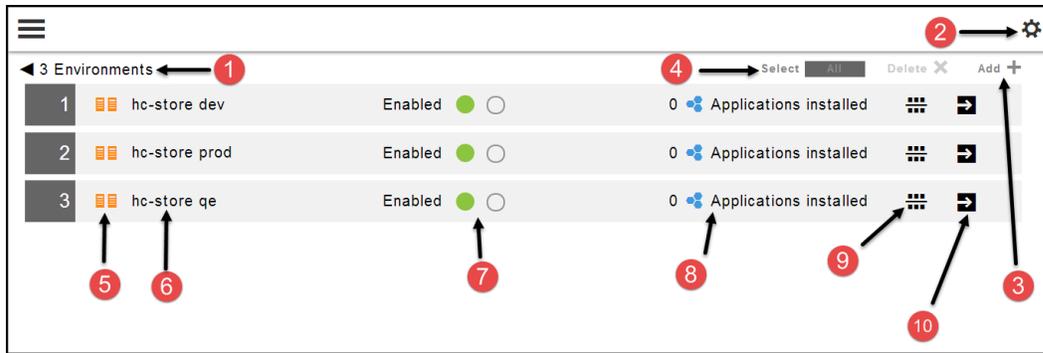
- [ElectricFlow Icons](#)
- [Applications Designer](#)
- [Application Processes](#)
- [Component Processes](#)
- [Designing Process Steps](#)
- [Credentials and Impersonation in ElectricFlow](#)

## Environments List

#### How to get here:

- From the Home page, click the **Environments** launch pad.
- From the main menu on the Home page, click the **Environments** destinations.

Use this list to track the environments in your continuous delivery solution.



1	Breadcrumb, which shows the total number of environments in your ElectricFlow system.
2	Administrative settings menu Click this icon to open a list of links to the administration area in the ElectricCommander platform. These links are the same as the links in the administrative settings menu on the Home page.
3	Click the plus sign (+) to add an environment.
4	<p>If you click <b>All</b>, all the environments are selected and the delete icon (X) is now available. Click the Delete icon to delete all of the environments.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <span>Select</span> <span>None</span> <span>Delete X</span> </div> <p>If you select one or more environments, click the Delete icon to delete the selected environments. the delete icon (X) is now available</p> <p>If you click <b>None</b>, none of the environments are selected and the Delete icon is not available.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <span>Select</span> <span>All</span> <span>Delete X</span> </div>
5	Environment icon
6	Name of the environment
7	Status of the environment When the status is Enabled and the green button appears, you can run the application after setting the tier map.
8	Total number of applications installed with the application icon

9	Inventory icon. Click this icon to view the environment inventory.
10	Click this arrow icon to go to the Environments Designer.

**Related Topics:**

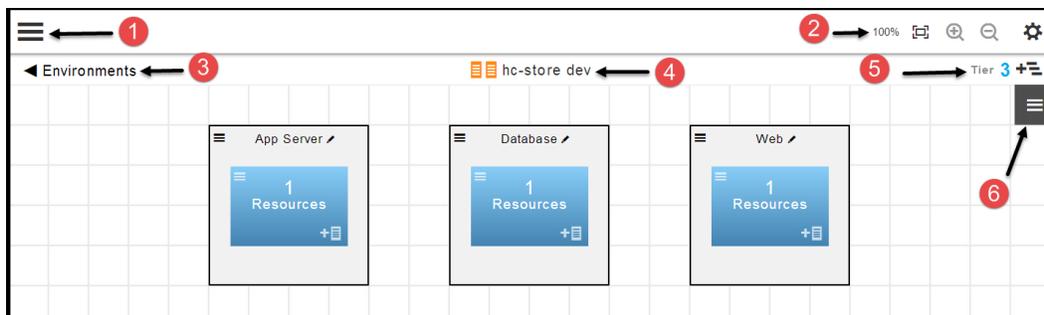
- [ElectricFlow Icons](#)
- [Home Page](#)
- [Main Menu](#)

## Environments Designer

**How to get to here:** From the Environments List page, select an environment.

Environments consist of resources that are grouped into tiers. The component and application processes run on resources assigned to environments.

To run applications, you must configure tier maps of application tiers to environment tiers.

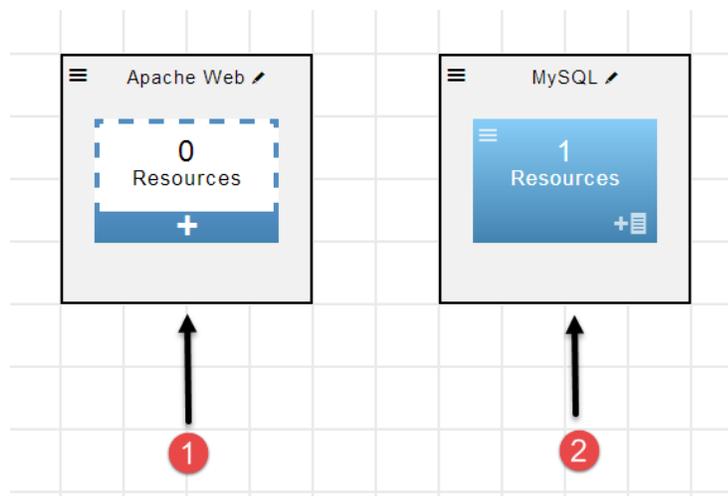


The following information is on this page:

1	Main menu
2	This information is view only. ElectricFlow automatically adjusts the page settings to show all the tiers in the environment. For example, if all the tiers do not fit on the page at 100% magnification, ElectricFlow reduces the magnification until all the tiers appear on the page.
3	Breadcrumbs
4	Environment name

5	<p>Number of tiers in the environment and the tier icon</p> <p>Click the "Add tier" icon to add an environment tier.</p>
6	<p>Environments menu icon</p> <p>Click this icon to view the environment details.</p> <ul style="list-style-type: none"> <li>• Details–The name and description of the object.</li> <li>• Properties–The properties in the object.</li> <li>• Notifications–The email notifications configured for the object.</li> <li>• Access Control–The access control configuration in the ElectricCommander platform for the object.</li> <li>• Track Changes–The change history of the object.</li> <li>• Delete–Delete this object.</li> </ul>

The appearance of the resources in an environment tier changes when you assign a new resource to a specific resource managed by the ElectricCommander platform.



1	The resource has been added to an environment tier but is not assigned to a specific environment tier.
2	The resource has been assigned to a specific environment tier.

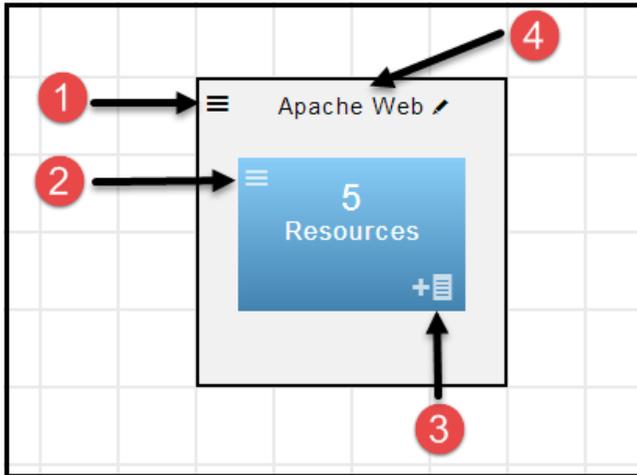
#### Related Topics:

- [ElectricFlow Icons](#)
- [Home Page](#)
- [Main Menu](#)

## Environment Tiers

**How to get here:** From the Environments Designer, choose an environment tier.

Environment tiers consist of resources that can be assigned to applications.

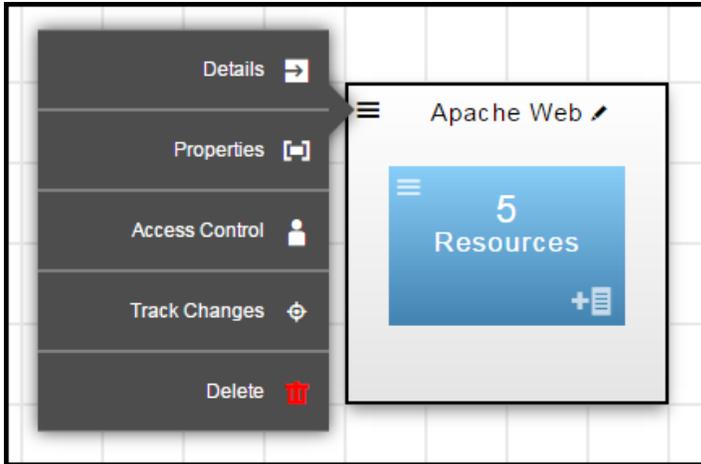


The following information is available about the tier.

1	<p>Environment tier menu icon</p> <p>Click this icon to see the tier details.</p> <ul style="list-style-type: none"> <li>• Details–The name and description of the object.</li> <li>• Properties–The properties in the object.</li> <li>• Access Control–The access control configuration in the ElectricCommander platform for the object.</li> <li>• Track Changes–The change history of the object.</li> <li>• Delete–Delete this object.</li> </ul>
2	<p>Resource menu icon</p> <p>Click this icon to view the resource details.</p>
3	<p>"Add a resource" icon</p> <p>Click this icon to add a resource in the tier.</p>
4	<p>Environment tier name and edit icon</p> <p>Click the edit icon to edit the tier name and description.</p>

## Environment Tier Details

When you click the environment tier menu icon, the environment tier details menu appears.



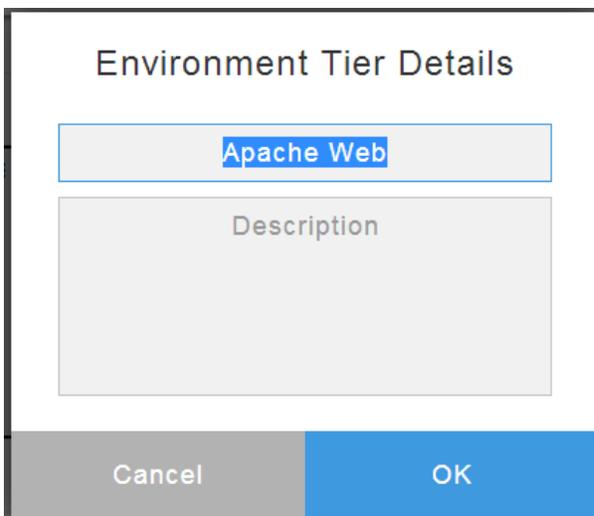
You can click on one of the following for more information:

- **Details**
- **Properties**
- **Access Control**
- **Track Changes**—Click this to open the Change History page.
- **Delete**—When you click **Delete**, everything for the tier, including the tier and all the resources in it, is deleted.

### *Details*

When you click **Details** in the environment tier details menu, the Environment Tier Details dialog box appears. It also appears when you click the pencil icon.

You can change the name of the environment tier and add a description about it.



## Properties

When you click **Properties** in the environment tier details menu, the environment tier Properties dialog box appears.



You set the properties for the environment tier or resource.

## Access Control

When you click **Access Control**, you go to the Access Control page in the ElectricCommander platform. You can set privileges for the objects in your application.

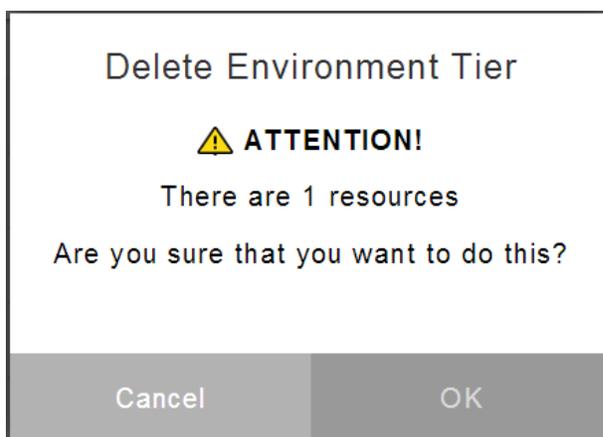
For more information about the Access Control page, go to the ElectricCommander Help > Projects > Select a project > Access Control.

## Track Changes

When you click **Track Changes**, the [Change History Page](#) opens.

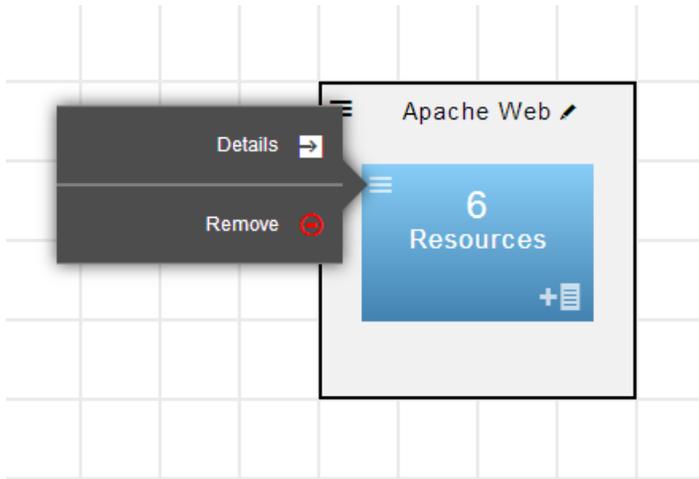
## Delete

When you click **Delete**, the Delete Environment Tier dialog box appears.



## Resource Details

When you click the resource menu icon, the resource details menu appears.



You can click on one of the following for more information about the environment tier or resource:

- **Details**
- **Remove**

When you use **Remove**, only the resources that you selected are deleted from the environment tier.

### Details

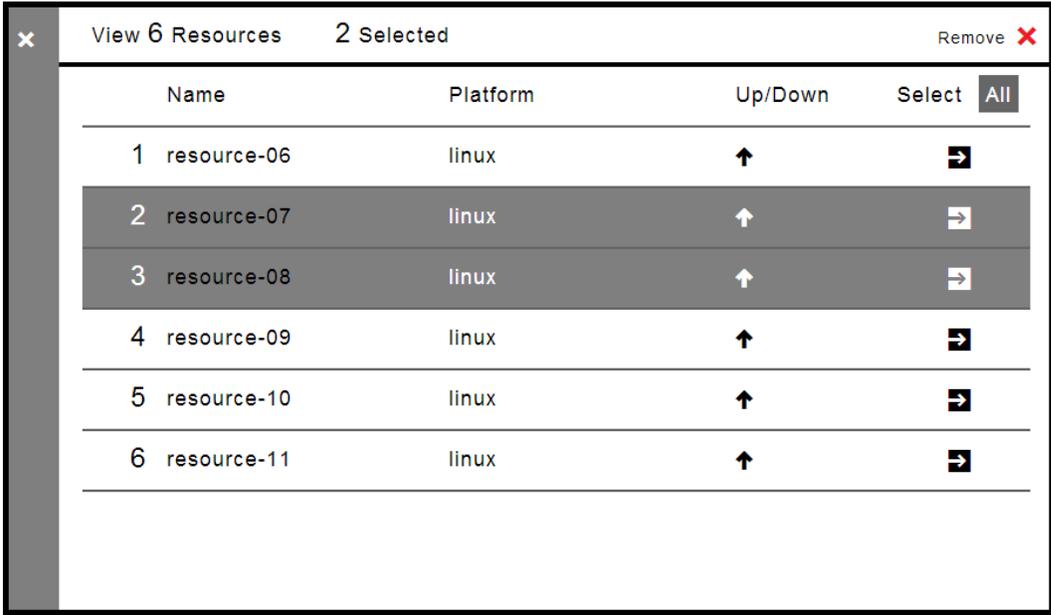
When you click **Details** in the resource details menu, the resource list appears. For each resource in the application, it shows the resource name, the platform it is on, and the status.

View 6 Resources		0 Selected		Remove
Name	Platform	Up/Down	Select	All
1 resource-06	linux	↑	➡	
2 resource-07	linux	↑	➡	
3 resource-08	linux	↑	➡	
4 resource-09	linux	↑	➡	
5 resource-10	linux	↑	➡	
6 resource-11	linux	↑	➡	

When you click the right arrow, you go to the Resources page in the ElectricCommander platform. For more information about the Resources page, go to the ElectricCommander Help > Web Interface Help > Resources.

### Remove

Select one or more resources and click **Remove X** to remove only the selected resources from the environment tier.



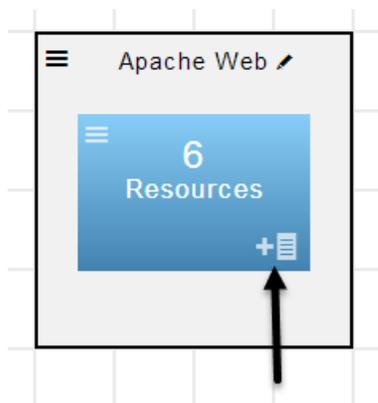
View 6 Resources		2 Selected		Remove X	
	Name	Platform	Up/Down	Select	All
1	resource-06	linux	↑	→	
2	resource-07	linux	↑	→	
3	resource-08	linux	↑	→	
4	resource-09	linux	↑	→	
5	resource-10	linux	↑	→	
6	resource-11	linux	↑	→	

## Adding Resources to Environment Tiers

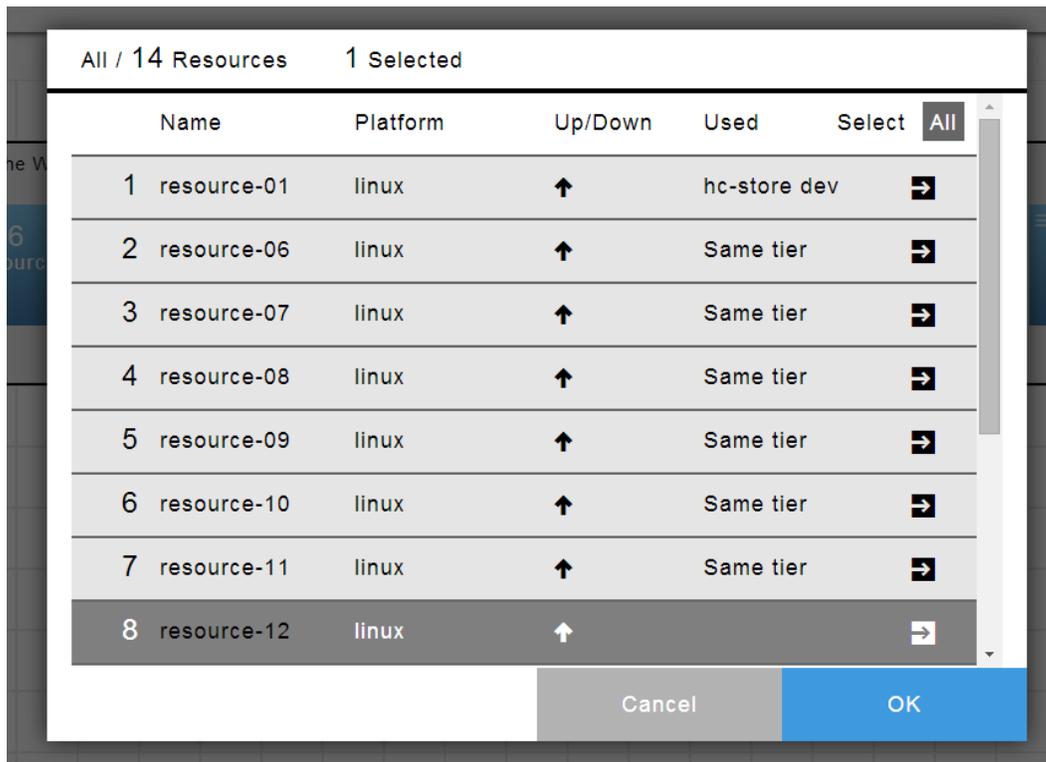
This example shows how to add a resource to an environment tier.

1. Click the "Add a resource" icon.

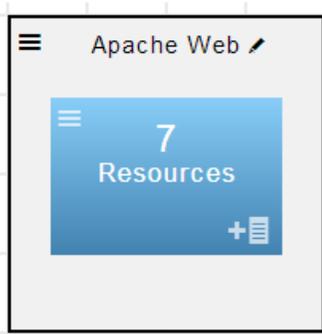
The resource list appears.



2. Select one or more resources and click **OK**.



3. The environment tier re-appears and is updated to show that resources have been added to the tier.

**Related Topics:**

- [ElectricFlow Icons](#)
- [Home Page](#)

## Tier Maps

**How to see a Tier Map:** From the Applications Designer, click the down arrow in this icon to show a drop-down list of configured tier maps. Then select a tier map to view.



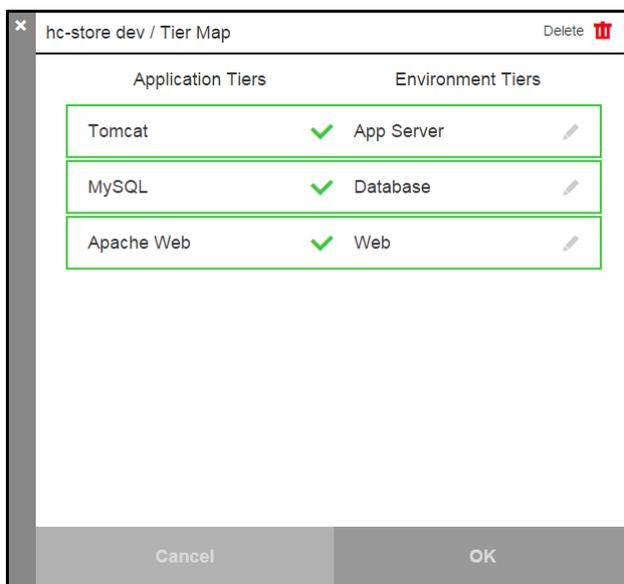
**How to add a Tier Map:** Click the "Add tier map" icon to add a tier map an application.



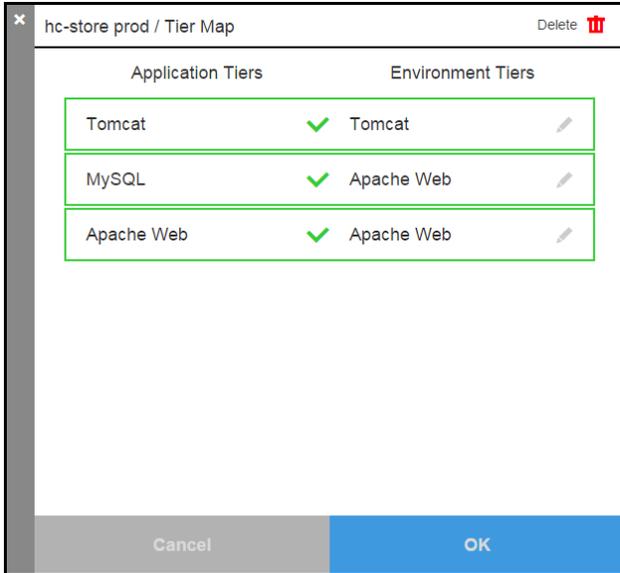
A tier map is a mapping of application tiers to environment tiers for a specific application and environment.

You must configure a tier map if you want to run an application.

This tier map shows the mapping between the Heat Clinic Store 1.1 application and the environment called hc-store dev. Each application tier is mapped to an environment.



You can map more than one application tier to the same environment tier.

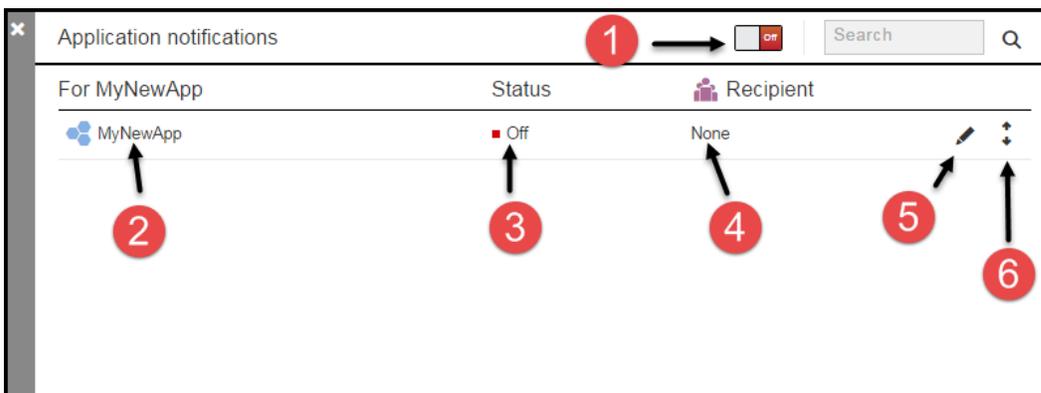


**Related Topics:**

- [ElectricFlow Icons](#)
- [Applications List](#)
- [Environments List](#)
- [Making Tier Maps](#)

## Application Notifications Wizard

**How to get here:** From the Applications Designer, click the Applications menu icon > select **Notifications**.

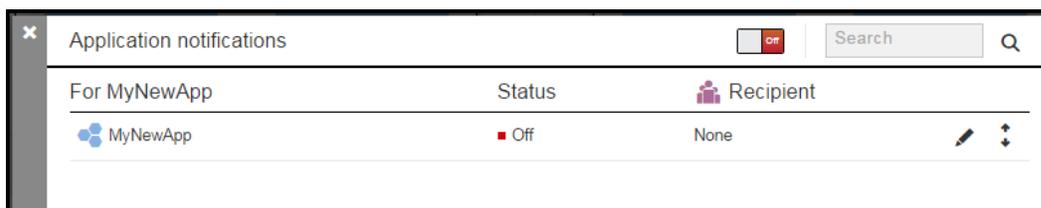


The following information is in this wizard.

1	<p>Notifications toggle.</p> <p>Click this to enable (<b>On</b>) or disable (<b>Off</b>) email notifications for the application.</p> <ul style="list-style-type: none"> <li>• Enable–The system sends email notifications to the specified recipients.</li> <li>• Disable–The system do not send email notifications.</li> </ul>
2	Name of the application.
3	<p>Status of the notification for the object at the current level.</p> <ul style="list-style-type: none"> <li>• On–The system sends email notifications.</li> <li>• Off–The system do not send email notifications.</li> </ul>
4	<p>How many recipients receive notifications.</p> <p>The values are <b>None</b> and <b>Some</b> (one or more).</p> <p>When <b>Some</b> is in the Recipient column, click the edit icon to see who the recipients are</p>
5	<p>Edit icon.</p> <p>Click this to edit a notification. The "Application notifications / edit" wizard opens.</p>
6	<p>View icon</p> <p>Click this to view the notifications for the object one level below the current level.</p> <p>In this example, when you click this icon in the MyNewApp row, the application processes in the MyCoolApp application appear in the rows below.</p>

## Setting Notifications for the First Time

New email notifications are disabled in the application, its application processes, and the process steps before you configure them.



You configure notifications in the "Application notifications / edit wizard."

**IMPORTANT:** The first time that you set notifications in this wizard, the Notifications toggle changes to **On**. After you enter notification settings and click **OK**, email notifications are enabled at that level.

To see the notification settings for the application processes and process steps, click the View icon. The settings for the application processes appear.

Example:



Click the View icon for each application process. The settings for processes steps appear.

For MyNewApp		Status	Recipient	
MyNewApp		Off	None	[edit] [view]
1	New installation	Off	None	[edit] [view]
1	install new	Off	None	[edit]
2	prepare the system	Off	None	[edit]
2	existing installation	Off	None	[edit] [view]
1	backup	Off	None	[edit]
2	set new database	Off	None	[edit]
3	upgrade	Off	None	[edit]

The first time that you set notifications in the application, application processes, or process steps in the "Application notifications / edit wizard," the Notifications toggle changes to On. After you enter the notification settings and click OK, email notifications are enabled at that level.

## Enabling Notifications

You can enable notifications at the application, application process, and process levels.

To enable email notifications at the application level:

- Click the Notifications toggle and change it to **On**.

The status of the application changes to **On**.

Example:

For MyNewApp		Status	Recipient	
MyNewApp		On	None	[edit] [view]
1	New installation	Off	None	[edit] [view]
2	existing installation	Off	None	[edit] [view]

- Click the edit icon to open the "Application notifications / edit" wizard.

The Application notifications / edit wizard appears. The Notification toggle changes to **On**.

Example:

The screenshot shows a wizard window titled "Application notifications / edit". At the top left is a close button (X) and a back arrow. The main title is "MyNewApp". On the right side, there is a toggle switch labeled "On" which is currently turned on (green). Below the title, there are three columns: "Who", "When", and "Where". Under "Who", there is a text input field with the placeholder "Add users, groups, or email addresses:". Under "When", there is a dropdown menu labeled "Event:" with the selected option "Both Failed and Succes...". Under "Where", there is a dropdown menu labeled "Environment:" with the selected option "All". There are also icons for adding (+) and removing (-) items. At the bottom, there are "Cancel" and "OK" buttons.

To enable notifications at the application process and process step levels, go to the "Application Notifications / edit" wizard for the specific process or process step.

The wizard opens, and the Notifications toggle is now **On**.

Example:

The screenshot shows a wizard window titled "Application notifications / edit". At the top left is a close button (X) and a back arrow. The main title is "New installation". On the right side, there is a toggle switch labeled "On" which is currently turned on (green). Below the title, there are three columns: "Who", "When", and "Where". Under "Who", there is a text input field with the placeholder "Add users, groups, or email addresses:". Under "When", there is a dropdown menu labeled "Event:" with the selected option "Both Failed and Succes...". Under "Where", there is a dropdown menu labeled "Environment:" with the selected option "All". There are also icons for adding (+) and removing (-) items. At the bottom, there are "Cancel" and "OK" buttons.

When you enter notification settings in the wizard and click **OK**, the settings are saved. The Application notifications wizard appears and now shows that the application process status is **On**.

Example:

For MyNewApp	Status	Recipient	
MyNewApp	On	Some	
1  New installation	On	Some	
2  existing installation	Off	None	

## Adding Notifications

You can configure one or more notifications in an application process or other object.

### Configuring recipients

In the **Who** field, you add users or groups who are configured and managed in the ElectricCommander platform or email addresses.

When you start typing a user name, group name, or email addresses, a list of names or email addresses appear that match what you are typing.

Example:

Application notifications / edit

backup On

Who When Where +

Add users, groups, or email addresses:  Event: Both Failed and Succes...

- admin (?)
- admin-asia (?)
- admin-aus (?)
- admin-uk (?)
- admin-us (?)
- jadams (?)
- sclaus (?)

If one of the suggestions matches the name or email address, select it, or continue typing. You can add more than one name or email address.

Example:

Application notifications / edit

backup On

Who +

When +

Where +

Add users, groups, or email addresses:

admin admin-asia sclaus jadams userX@gmail.com

DevT200@gmail.com

Event: Both Failed and Succes... ▼

Environment: All

### Configuring the event that triggers the notification

In the **When** field, you select the event that triggers a notification to be sent to the recipients in the **Who** field. The default is **Both Failed and Successful**. Click in the **When** field to select the event for the notification.

Example:

Application notifications / edit

backup On

Who +

When +

Where +

Add users, groups, or email addresses:

admin admin-asia sclaus jadams userX@gmail.com

DevT200@gmail.com

Event: Both Failed and Succes... ▼

Run Failed

Run Successful

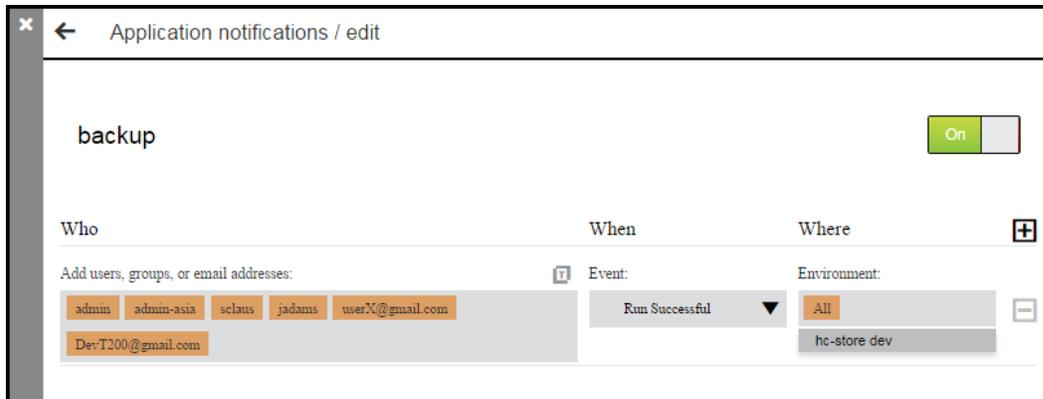
Both Failed and Successful

Environment: All

### Configuring the environments where the notification applies

In the **Where** field, you select the environments to which the notifications apply. Click in the **Where** field to select the environments, which are the environments to which the application is mapped in the tier map.

Example:



Application notifications / edit

backup On

Who When Where +

Add users, groups, or email addresses: + Event: Environment:

admin admin-asia sclaus jadams userX@gmail.com Run Successful All -

DevT200@gmail.com hc-store dev

### Adding More Notifications

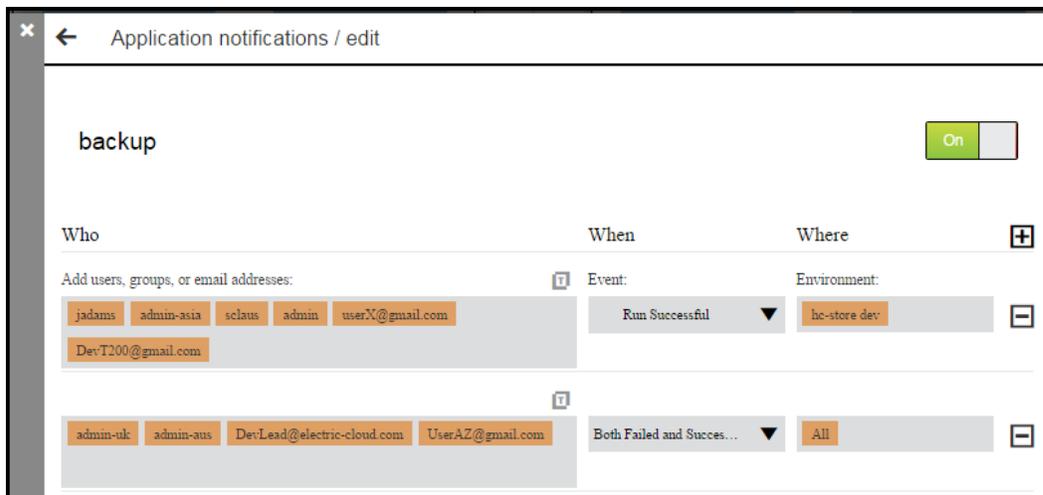
Click the Add Notifications icon to add a new notification.

Example:



After you have added your email notifications, click **OK** to save the settings and return to the Application notifications wizard.

Example:



Application notifications / edit

backup On

Who When Where +

Add users, groups, or email addresses: + Event: Environment:

jadams admin-asia sclaus admin userX@gmail.com Run Successful hc-store dev -

DevT200@gmail.com

+

admin-uk admin-aus DevLead@electric-cloud.com UserAZ@gmail.com Both Failed and Succes... All -

### Deleting Notifications

Click the Delete Notification icon to delete a notification when there are more than two notifications.



Application notifications / edit

MyApp On

Who	When	Where
Add users, groups, or email addresses:	Event:	Environment:
ajones haaron@electric-cloud.com admin admin2 DevT2000 bbanks@electric-cloud.com	Both Failed and Succes...	hc-store dev
	Both Failed and Succes...	All

Cancel OK

## Disabling Notifications

You can disable all email notifications or specific ones in the application.

- When you disable the email notifications for an application, all email notifications, including the ones for application processes and process steps, are disabled.
- You can disable the email notifications for an application process but still keep the notifications enabled for process steps in the application.

## Applications

To disable email notifications for the application:

- Click the Notifications toggle in Application notifications wizard.
  - The toggle and the status of the application change to **Off**.
- When you use the "Applications notification / edit" wizard:
  - a. Click the edit icon to open the wizard.
  - b. Click the toggle to change it to **Off**, and then click **OK**. The Application notifications wizard opens with the updated status.

For MyNewApp	Status	Recipient
MyNewApp	Off	Some

## Application Processes and Process Steps

To disable notifications, click the Notifications toggle and then click **OK** in "Application notifications / edit" wizard. The toggle changes to **Off**.

The screenshot shows the 'Application notifications / edit' wizard for a 'New installation'. At the top right, there is a toggle switch labeled 'Off'. Below this, the wizard is divided into three columns: 'Who', 'When', and 'Where'. Under 'Who', there is a field 'Add users, groups, or email addresses:' with two tags: 'admin-aus' and 'admin-asia'. Under 'When', there is a field 'Event:' with a dropdown menu showing 'Both Failed and Succes...'. Under 'Where', there is a field 'Environment:' with a tag 'hc-store dev'. A plus sign icon is visible on the right side of the 'When' and 'Where' sections.

The screenshot shows the 'Application notifications / edit' wizard for a 'backup' process. At the top right, there is a toggle switch labeled 'Off'. Below this, the wizard is divided into three columns: 'Who', 'When', and 'Where'. Under 'Who', there is a field 'Add users, groups, or email addresses:' with several tags: 'jadams', 'admin-asia', 'sclaus', 'admin', 'userX@gmail.com', and 'DevT200@gmail.com'. Under 'When', there is a field 'Event:' with a dropdown menu showing 'Run Successful'. Under 'Where', there is a field 'Environment:' with a tag 'hc-store dev'. A plus sign icon is visible on the right side of the 'When' and 'Where' sections. Below the main configuration, there is a second row with tags 'admin-uk', 'admin-aus', 'DevLead@electric-cloud.com', and 'UserAZ@gmail.com' under 'Who', and a dropdown menu showing 'Both Failed and Succes...' and a tag 'All' under 'When'.

The Application notifications wizard now shows that email notifications are disabled for the application, its application processes, and process steps.

Application notifications			Off	Search	Q
For MyNewApp	Status	Recipient			
MyNewApp	Off	Some			
1 New installation	Off	Some			
1 install new	Off	None			
2 prepare the system	Off	None			
2 existing installation	Off	None			
1 backup	Off	Some			
2 set new database	Off	None			
3 upgrade	Off	None			

**Related Topics:**

- [Setting Email Notifications](#)
- [Selecting and Editing Email Messages](#)

## Change History Search Form

**How to get here:** From the Home page, click the Search icon to open the "Change History - Search" form.

Search icon:



The "Change History - Search" form has the following information:

**How to get here:** From the Change History page, click the Search icon in the upper right corner to open the "Change History - Search" form.

The "Change History - Search" form has the following information:



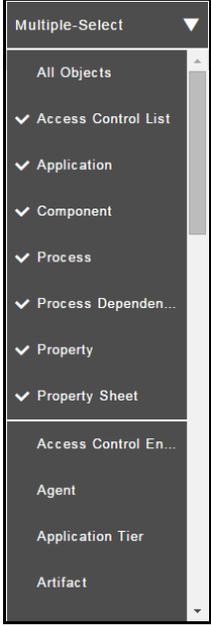
1

Time range.

Click this to open the drop-down list of start times for the Change History search.

Past 15 Minutes  
Past 30 Minutes  
Past 60 Minutes  
Past 6 Hours  
Past 12 Hours  
Past 24 Hours  
Past 3 Days  
Select Date

The end time is the current time. You can change the end time after you run the search and get the search results.

2	<p>Objects to include in the search.</p> <p>You can select All Objects or specific objects.</p> <p>By default, seven of the most commonly tracked objects are selected.</p> 
3	<p>Enter the search criteria in this field.</p> <p>After you type the first character, the system starts searching for objects based on the time range and objects that you selected.</p> <p>The search results are in the Change History.</p>

**Related Topics:**

[Change History Page](#)

## Change History Page

**How to get here:** Click the Change History icon for a tracked object.

Example:



The Change History has this information about the object called *Proc*:

Change History for Proc

12/04/14 - 10:45 AM to 12/04/14 - 7:05 PM

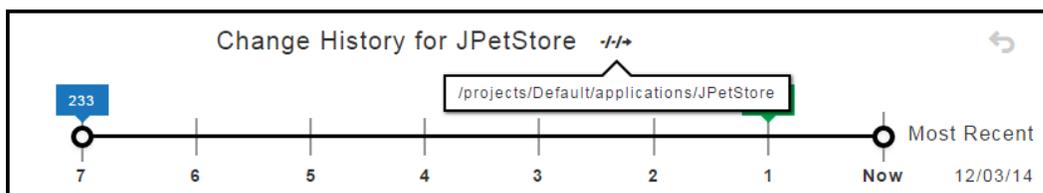
When	What	Name	By...	Change	Path
1 Dec 04, 2014 11:08 AM Pacif...	process	proc	project: Default	modified	...
2 Dec 04, 2014 11:08 AM Pacif...	processStep	s2	admin	modified	...
3 Dec 04, 2014 11:07 AM Pacif...	processDepend...	d086ed98-7be8...	admin	created	...
4 Dec 04, 2014 11:07 AM Pacif...	acl	ec_deploy	admin	created	...
5 Dec 04, 2014 11:07 AM Pacif...	acl	d3	admin	created	...
6 Dec 04, 2014 11:07 AM Pacif...	propertySheet	d3	admin	created	...
7 Dec 04, 2014 11:07 AM Pacif...	propertySheet	ec_deploy	admin	created	...
8 Dec 04, 2014 11:07 AM Pacif...	propertySheet	d3	admin	created	...

<p>1</p>	<p>Time line</p> <p>You can modify the start and end times.</p> <p>Default:</p> <ul style="list-style-type: none"> <li>• The entire time line is selected. All changes appear in the Change History list.</li> <li>• The time increment is from the Last Successful Run to the most current change.</li> <li>• The start time is based when the last successful run occurred.</li> <li>• The end time is when the most recent changed occurred.</li> </ul>
<p>2</p>	<p>Path to the tracked object.</p> <p>Example:</p> <p>Change History for JPetStore</p> <p>/projects/Default/applications/JPetStore</p> <p>7 6 5 4 3 2 1 Now 12/03/14</p>
<p>3</p>	<p>Click  to revert the selected changes.</p> <p>Click  to export the changes to the object as an XML file.</p>

6	<p>Time line.</p> <p>The start time is based on the time range that you selected.</p> <p>The end time is the current time.</p> <p>You can manually change the start and end times after you run the search and get the search results.</p>																								
4	<p>Filters for the change history.</p> <p>You can view all changes or view only selected changes.</p> <p>The objects in the list are the objects in the change history search results.</p>																								
5	<p>Change history for the selected object.</p> <ul style="list-style-type: none"> <li>• When—the date and time that the object changed.</li> <li>• What—The type of object.</li> <li>• Name—The name of the object.</li> <li>• By—The "user" that changed the object, which can be a project or a user.</li> <li>• Change—The type of change.</li> <li>• Path—Click the View Path icon to see the path to the object.</li> </ul> <div data-bbox="378 989 1425 1220" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <table border="1"> <thead> <tr> <th>When ▲ ▼</th> <th>What</th> <th>Name</th> <th>By...</th> <th>Change</th> <th>Path</th> </tr> </thead> <tbody> <tr> <td>1 Dec 03, 2014 4:34 PM Pacific...</td> <td>property</td> <td>jobcounter</td> <td>project: ...</td> <td>modified</td> <td>-/+ ↕</td> </tr> <tr> <td>2 Dec 03, 2014 4:34 PM Pacific...</td> <td>process</td> <td colspan="2">           Before path: /projects/Default/applications/JPetStore/jobcounter            After path: /projects/Default/applications/JPetStore/jobcounter         </td> <td></td> <td>-/+ ↕</td> </tr> <tr> <td>3 Dec 03, 2014 12:38 PM Pacif...</td> <td>property</td> <td>pluginpr...</td> <td>admin</td> <td>created</td> <td>-/+</td> </tr> </tbody> </table> </div> <p>Click the View icon to view more information about a specific change in the Change History.</p>	When ▲ ▼	What	Name	By...	Change	Path	1 Dec 03, 2014 4:34 PM Pacific...	property	jobcounter	project: ...	modified	-/+ ↕	2 Dec 03, 2014 4:34 PM Pacific...	process	Before path: /projects/Default/applications/JPetStore/jobcounter After path: /projects/Default/applications/JPetStore/jobcounter			-/+ ↕	3 Dec 03, 2014 12:38 PM Pacif...	property	pluginpr...	admin	created	-/+
When ▲ ▼	What	Name	By...	Change	Path																				
1 Dec 03, 2014 4:34 PM Pacific...	property	jobcounter	project: ...	modified	-/+ ↕																				
2 Dec 03, 2014 4:34 PM Pacific...	process	Before path: /projects/Default/applications/JPetStore/jobcounter After path: /projects/Default/applications/JPetStore/jobcounter			-/+ ↕																				
3 Dec 03, 2014 12:38 PM Pacif...	property	pluginpr...	admin	created	-/+																				

## Paths to Objects

Click the View Path icon next to the "Change History for JPetStore" title to see the path to the application.



Click the View Path icon to see the change in the path to the object before and after the change.

When ▲ ▼	What	Name	By...	Change	Path
1 Dec 03, 2014 4:34 PM Pacific...	property	jobcounter	project: ...	modified	-/-/↔ ↑ ↓
2 Dec 03, 2014 4:34 PM Pacific...	process	Before path: /projects/Default/applications/JPetStore/jobcounter After path: /projects/Default/applications/JPetStore/jobcounter			↑ ↓
3 Dec 03, 2014 12:38 PM Pacific...	property	pluginpr...	admin	created	-/-/↔

## Detailed Object Changes

Click the View icon to see the change in the property called emailNotifier.

Timeline for Test

▼ Past 60 Minutes

When ▲ ▼	What	Name	By...	Change	Path
1 Dec 17, 2014 1:37 PM Pacific...	emailNotifier	notifier for jennifer	admin	modified	-/-/↔ ↑ ↓
2 Dec 17, 2014 1:37 PM Pacific...	emailNotifier	notifier for jennifer	admin	modified	-/-/↔ ↑ ↓

Column Changed	From...	To...	Current state
1. destinations	doejane@electric-cloud.com	doejane@electric-cloud.com	johnhoe@electric-cloud.com

Click the Expand button to all the changes to the property,

Example:



When you click the Expand button in a cell, you can see more details in the current change in the cell.

If you click the **Select All** button, all the changes about the object appear.

2 Dec 17, 2014 1:37 PM Pacific Standard Time emailNotifier notifier for jennifer By: admin modified -/-/↔

Column Changed	From...	To...	Current state
1. destinations	doejane@electric-cloud.com	doejane@electric-cloud.com	johnhoe@electric-cloud.com

To select an object to revert or import the changes to an XML file, select the row of the object in the expanded view.

2 Dec 17, 2014 1:37 PM Pacific Standard Time emailNotifier notifier for jennifer admin modified -/-/↔

Column Changed	From...	To...	Current state
1. destinations	johnhoe@electric-cloud.com	doejane@electric-cloud.com	johnhoe@electric-cloud.com

### Related Topics:

[Change History Time Line](#)

[Change History Filters](#)

Viewing the Change History

Change History Search Form

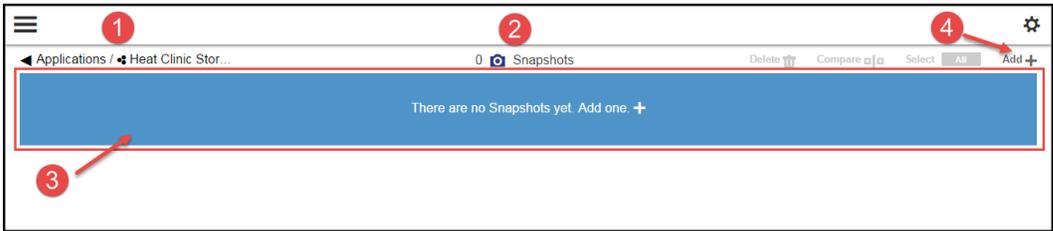
# Snapshot List

**How to get here:** From the Applications List, select an application > click the snapshot icon > select **Snapshot List**.

Example:

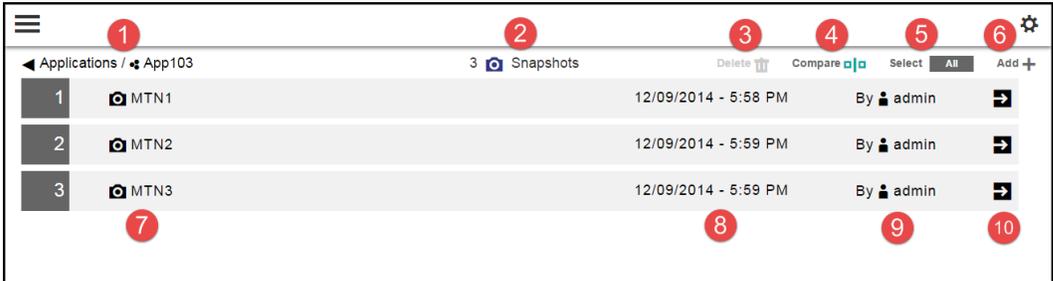


This example shows a snapshot list with no snapshots:



1	Breadcrumb: Applications/<Application name>
2	Number of snapshots.
3	<b>Add +</b> pane. Click anywhere in the pane to add a snapshot. The New Snapshot wizard opens.
4	Click on <b>Add +</b> to add a snapshot. The New Snapshot wizard opens.

This snapshot list has three snapshots:



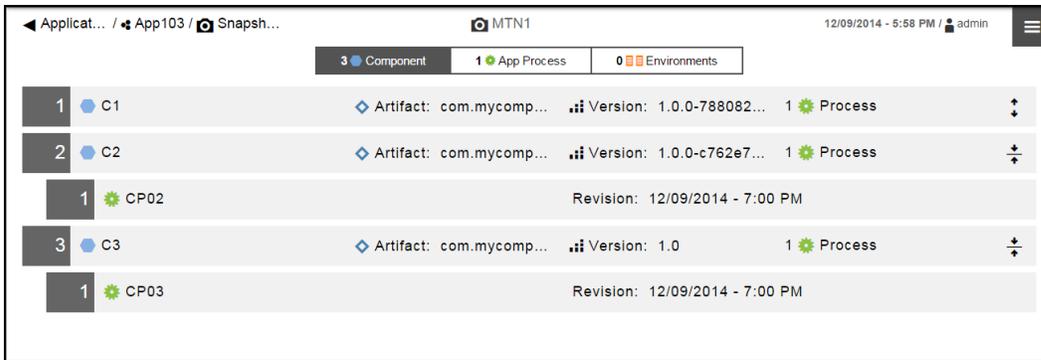
1	Breadcrumb: Applications/<Application name>
2	Number of snapshots.
3	Delete icon. After you select one or more snapshots in the list, the Delete icon is available (enabled). Click this to delete the snapshots that you selected.
4	Compare snapshots from a list.  This is available (enabled) when the list has two or more snapshots.  Click this to open a full-screen window and view two snapshots next to each other.  After the window opens, you can select snapshots on both sides and compare those snapshots.  The default is have the most recent snapshot on the left and the previous snapshot on the right.  You do not have to select a snapshot to open the full-screen window and view two snapshots.
5	If you click <b>All</b> , all the snapshots are selected. If you click <b>None</b> , none of the snapshots are selected.
6	Add a snapshot.
7	Snapshot name.
8	Time stamp when the snapshot was created.
9	The user who created the snapshot.
10	View details icon. Click this to go to the Snapshot Details pages.

## Snapshot Details Page

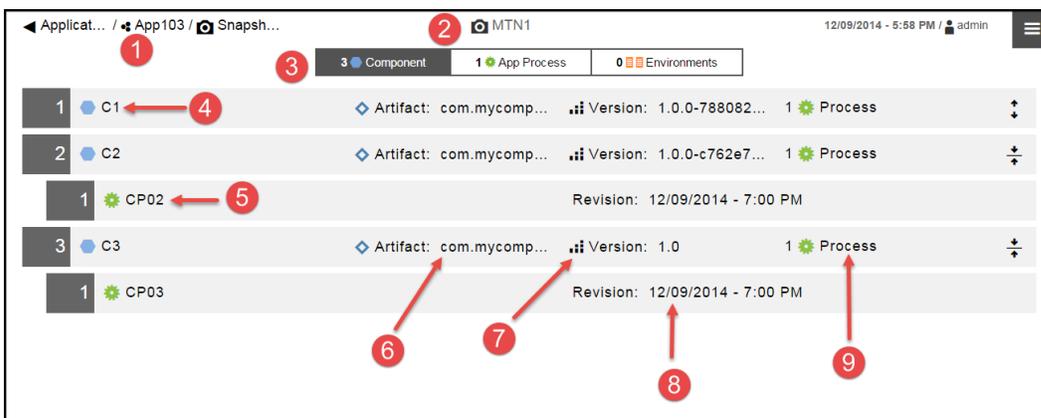
**How to get here:** From the snapshot list, click the View Details icon.

Example:





This is the Component view.



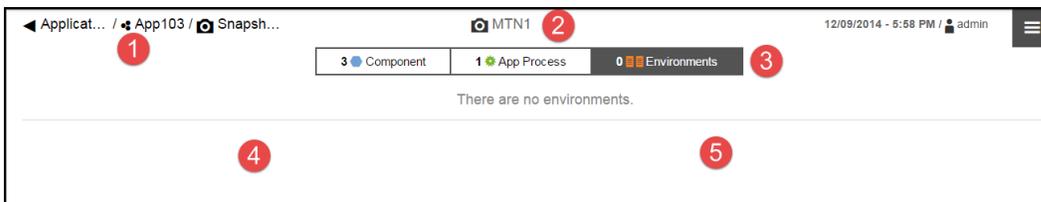
1	Breadcrumb: Applications/<Application name>/Snapshots
2	Name of the snapshot.
3	Number of components in the snapshot.
4	Component name.
5	Component process name.
6	Artifact name.
7	Artifact version.
8	Time stamp when the component process was last modified.
9	Number of component process for the component.

This is the App Process view.



1	Breadcrumb: Applications/<Application name>/Snapshots
2	Name of the snapshot.
3	Number of application processes in the snapshot.
4	Application process name.
5	Time stamp when the application process was last modified.

This is the Environment view.



1	Breadcrumb: Applications/<Application name>/Snapshots
2	Name of the snapshot.
3	Number of environments in the snapshot.
4	Environment name.
5	Time stamp when the environment was last modified.

## Snapshot Wizards

[New Snapshot Wizard](#)

[Component View in the New/Preview Wizard](#)

[Modifying the Artifact Version](#)

[App Process View in the New/Preview Wizard](#)

## New Snapshot Wizard

**How to get here:** From the Applications List, click the snapshot icon > select **Snapshot List** > click in the **Add one. +** pane or click **Add+** in the snapshot list.

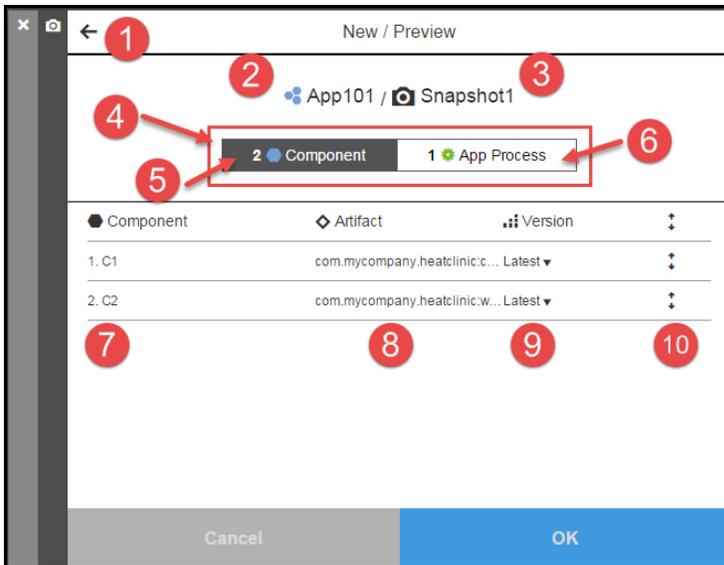
The New Snapshot wizard opens.

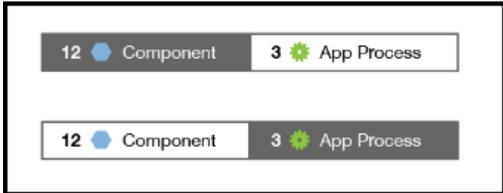
1	Name for the snapshot that must be unique within the application.
2	(Optional) Description of the snapshot.

## Component View in the New/Preview Wizard

**How to get here:** In the New Snapshot wizard, enter the snapshot name and the optional description, and click **Next**.

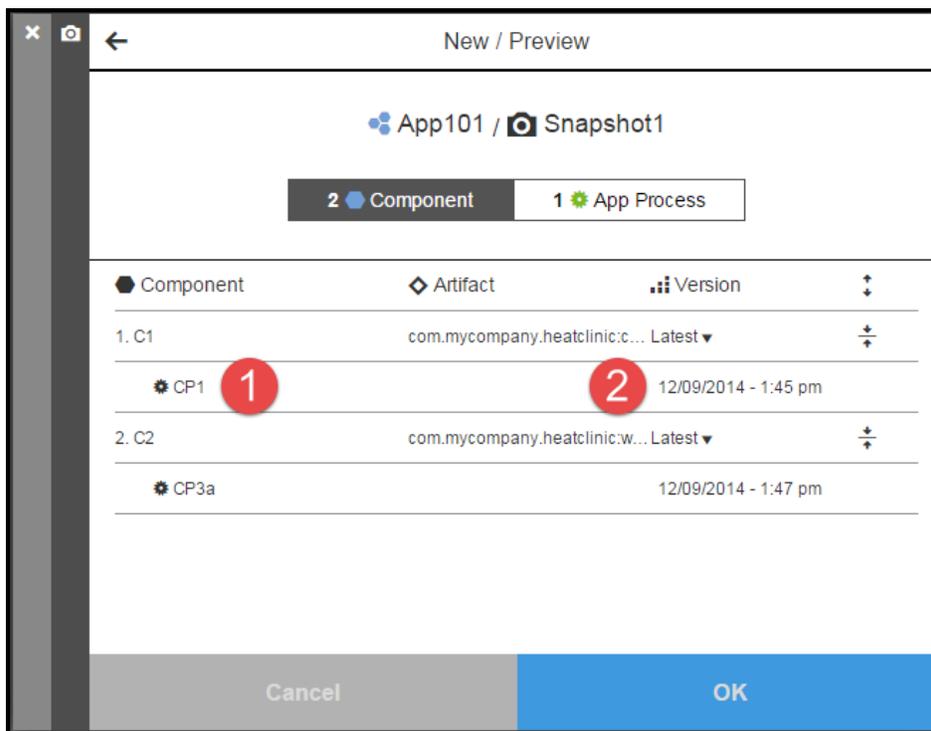
The New/Preview wizard opens.



1	Go back to the New Snapshot wizard.
2	Application name.
3	Snapshot name.
4	<p>Toggle between the Component, App Process, and Environment views. Before a snapshot is deployed, only the Component and App Process views are available.</p>  <p>After the snapshot is deployed, Component, App Process, and Environment views are available.</p> 

5	Number of components.
6	Number of application processes.
7	Component number (not the row number) and component name. When you click the View icon to show the component details, the component processes rows do not have numbered.
8	Name of the artifact associated with the component.
9	Version of the artifact. Click the down arrow to open the drop-down menu where you can select a different artifact version.
10	Click the View icon to show the component details.

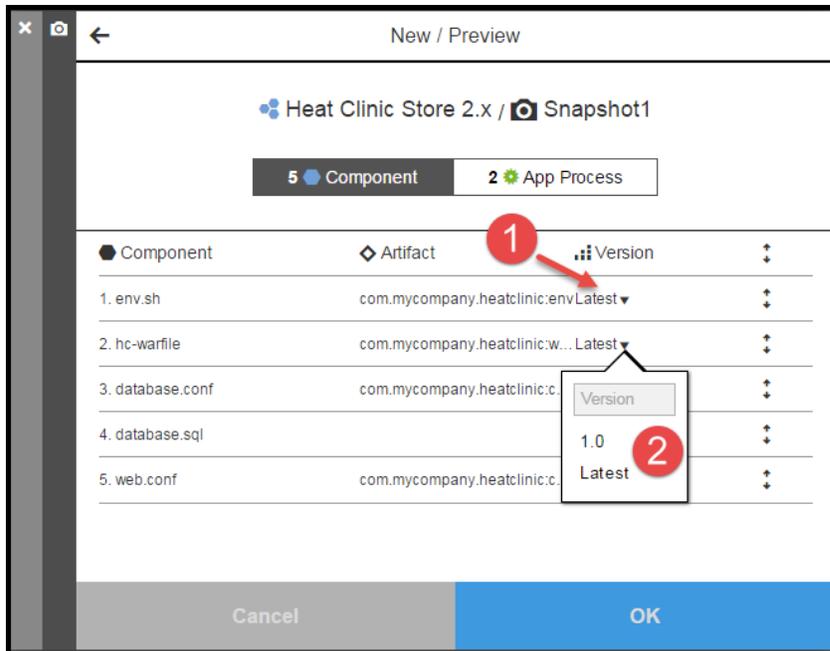
When you choose a component and click the View icon, the component process information appears.



1	Name of the component process.
2	Time stamp when the component process was last run.

## Modifying the Artifact Version

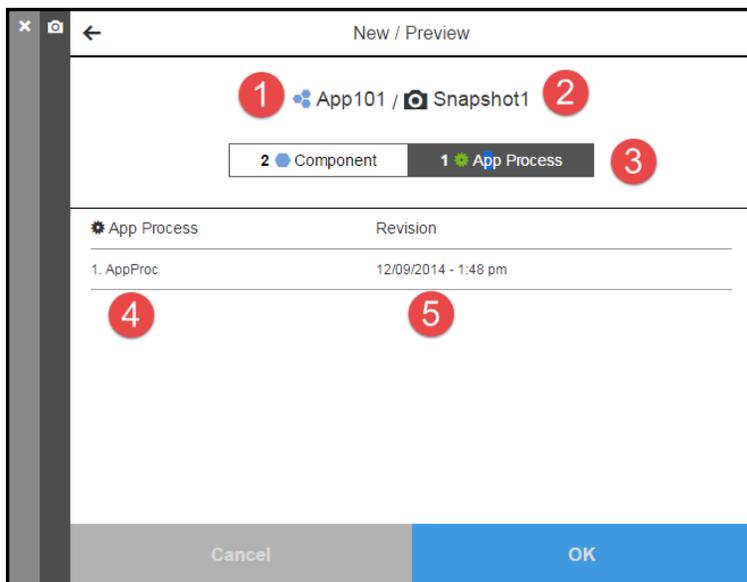
This example shows the current version of each component, which is Latest.



1	Current version of the artifact.
2	Possible artifact versions. To modify the artifact version in the snapshot, click the down arrow in the Version column to open a drop-down menu. You can select a version or enter the one that you want to use.

## App Process View in the New/Preview Wizard

When you toggle to the App Process view, the following information appears.



1	Application name.
2	Snapshot name.
3	Number of application processes in the application.
4	Name of the application process.
5	Time stamp when the component process was last run.

## Different Ways to Run Applications

**How to get here:** From the Applications List page, choose an application and click the "Run process" icon for that application. The wizard to set the parameters for running the application opens.

In the wizard, smart deploy is enabled. By default, smart deploy is enabled.

**Note:** If this is the first time that you are running the application, smart deploy is not enabled.

These examples show how to set the parameters for:

- Smart deploy
 

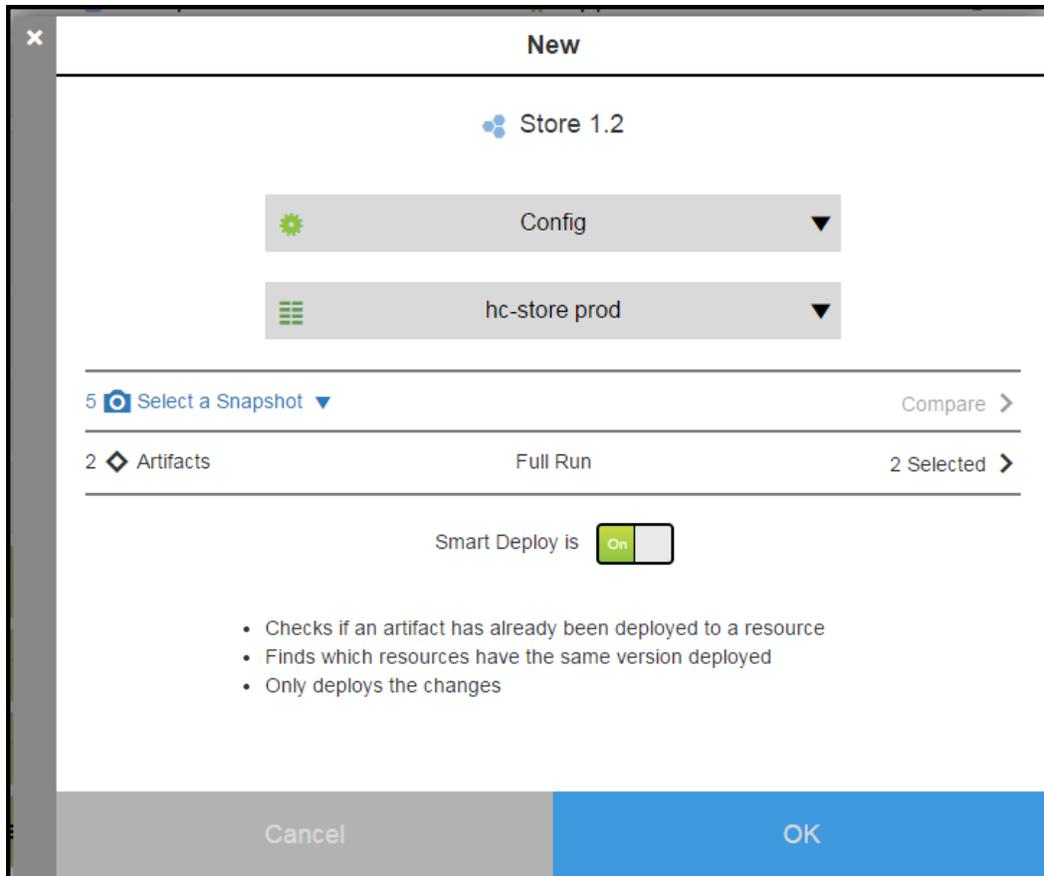
The system runs the application only with artifacts that have not been deployed to a resource or selected versions of the artifact have not been deployed to new resources since a previous run.
- Full run
 

The system runs the application with all the application processes, components, and artifacts in the application.
- Partial run
 

The system runs the application with only the selected application processes, components, and artifacts in the application.
- Selecting artifacts with specific versions to run
 

The system runs the application with only the selected versions of the artifacts.
- Combinations of these ways

In this example, **Full Run** is selected. All the objects in Store 1.2 will be run when the application runs.



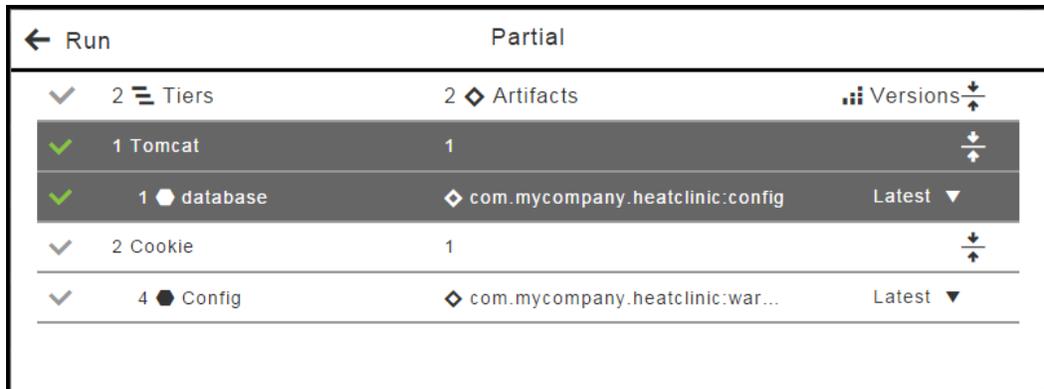
To view what objects in the application will run, click **Full Run**.

A dialog box with a list of objects in the application opens. In this dialog box, the objects that are selected with the green check mark will run.

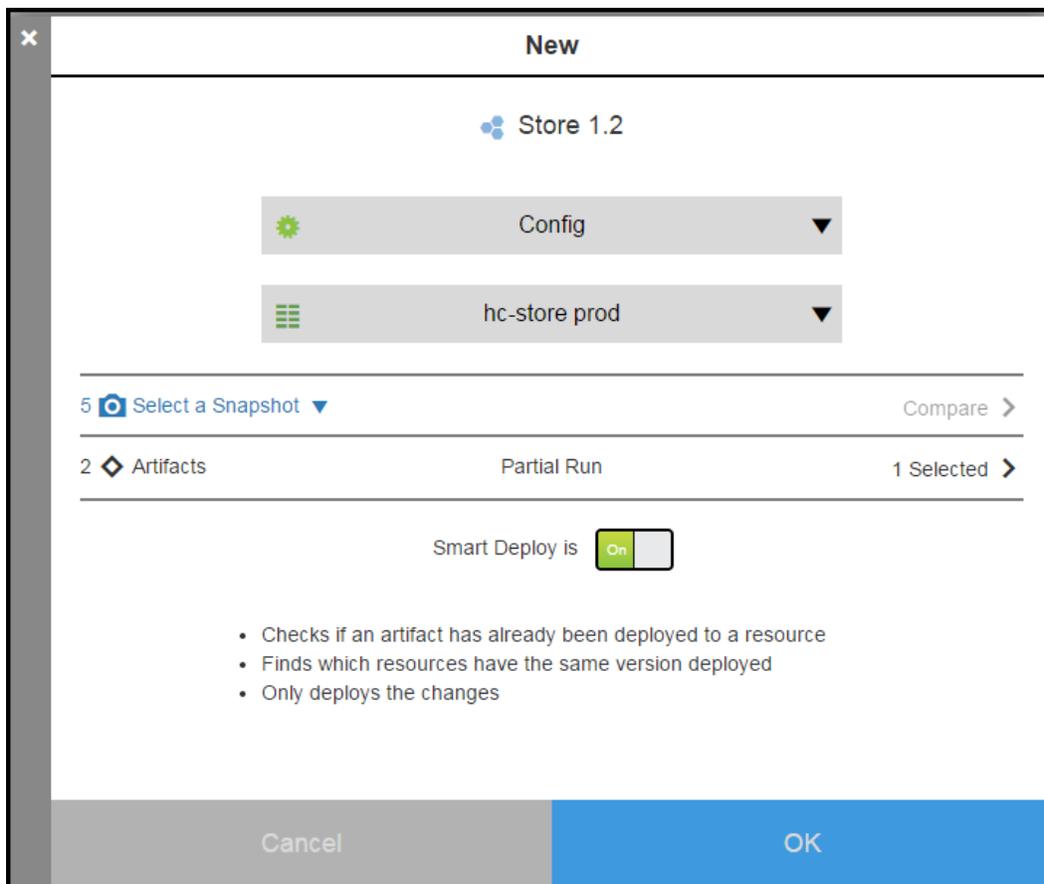
← Run		Full	
✓ 2 Tiers	2 Artifacts	Versions	
✓ 1 Tomcat	1		
✓ 1 database	com.mycompany.heatclinic:config	Latest	▼
✓ 2 Cookie	1		
✓ 4 Config	com.mycompany.heatclinic:war...	Latest	▼

You can do a **Partial Run** to run only some of the objects. To select an object that you do not want to deploy, click in its row.

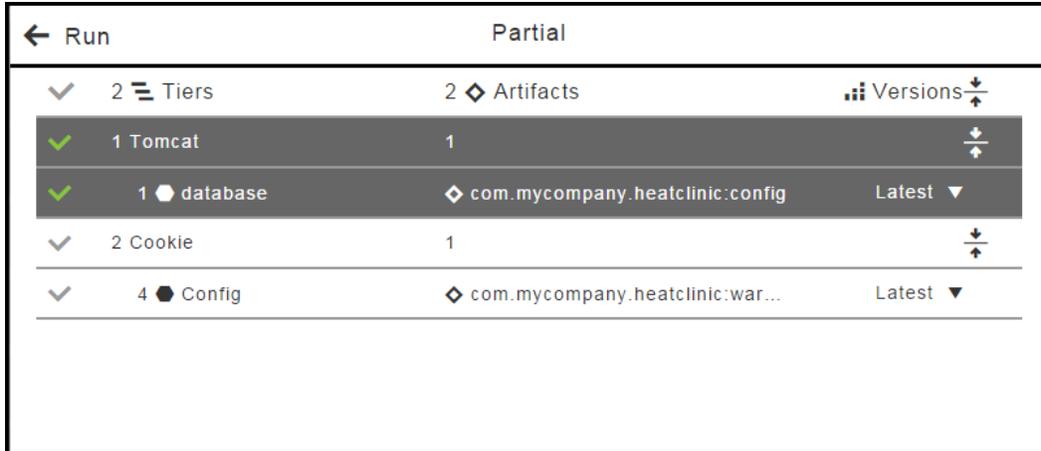
For example, if you click in the Cookie row, all the objects in the Cookie are removed from the next run.



After you click **OK**, the wizard now shows that when the application runs, it is a *Partial Run* and that *1 of 2* artifacts in the application will run.



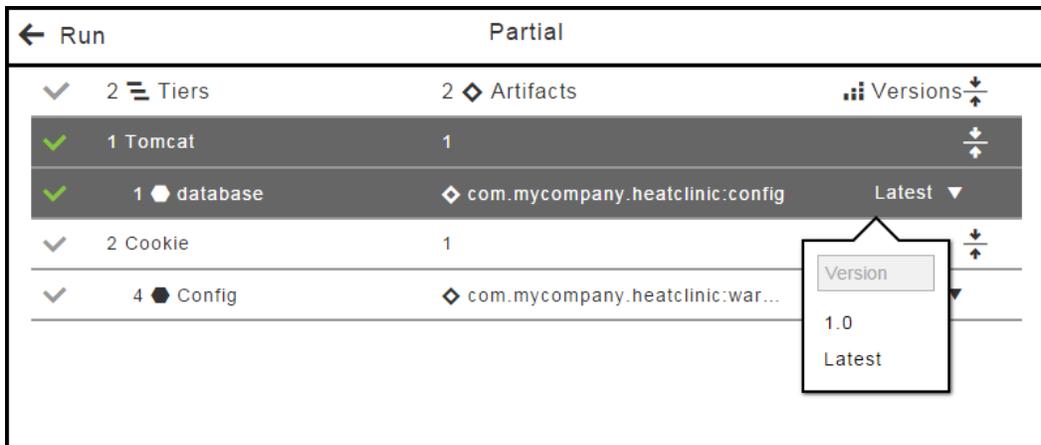
You can also select specific versions of artifacts. To select the artifact versions, click in the row with Artifacts. The dialog box opens.



The version of each artifact is in the Version column. The current version is *Latest*.

To see the actual version, click the down arrow next to the current version. A drop-down menu appears.

For the Backup1.zip component, the possible versions are in the drop-down list. The latest version is Version 2.0.



Click **OK** to save these settings and return to the wizard.

You can use these combinations to run an application:

	Smart Deploy	Full Run	Partial Run	Artifacts with Specific Versions
Smart Deploy		No	Yes	Yes
Full Run	No		No	Yes
Partial Run	Yes	No		Yes
Artifacts with Specific Versions	Yes	Yes	Yes	

**Related Topics:**

- [Running Applications](#)
- [Running Applications with New Parameters](#)
- [Running Applications with Parameters from Previous Runs](#)
- [Running Applications with Schedules](#)

## Inventory Tracking

Electric Flow uses inventory tracking to track what is built, tested, and deployed in your continuous delivery solution, including artifacts, the artifact version, resources on which the applications are run, and environments to which the resources are assigned.

If there is an issue in an application in operations, you can find the details about what was deployed with inventory tracking.

### Tracking at the Component Process Level

Inventory tracking occurs at the component process level.

You design the component process as one of the following process types in the Component Process Details dialog box:

- **Deploy**—Enables inventory tracking. The ElectricCommander server tracks artifacts deployed to environments. This is the default.
- **Undeploy**—After the first successful job step in a component process with this setting, the ElectricCommander platform removes the environment inventory record.
- **Other**—Disables inventory tracking.

**New**

**Component Process Details**

Name

Description

Deploy

Credential 0 Optional >

Workspace default Optional

Time limit 0 Seconds Optional

Cancel OK

**Related Topics:**

- [ElectricFlow Icons](#)
- [Application Inventory](#)
- [Environment Inventory](#)
- [Viewing Results and Troubleshooting](#)

## Environment Inventory

**How to get here:** From the Environments List, choose an environment and click the Inventory icon. The Environment Inventory for that environment appears.

The Environment Inventory is the state of the environment at a point in time.

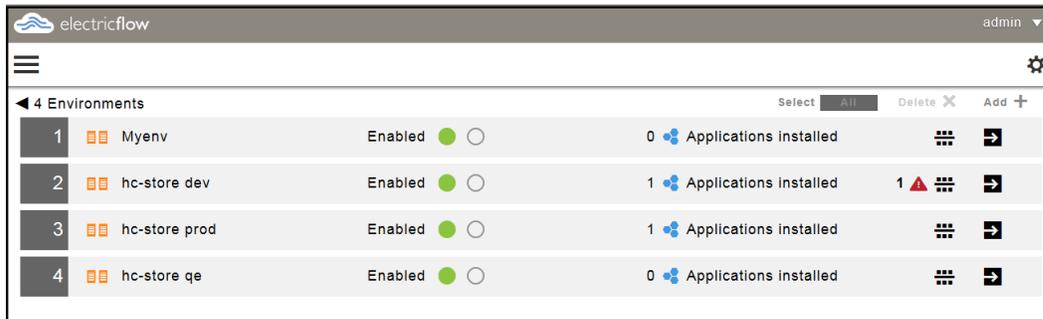
- When an application is running, you can see the progress as it runs.
- After an application runs, you can see the details for the objects in application that ran in the environment.

Click the "View details" icon in a row to see more details about a specific object including

- Environment name
- Application mapped to this environment
- Number of deployed artifacts in the application

- When the artifacts were deployed
- Status of the deployment: success or failure

In this example, the Environments List shows that an application was run on the "hc-store dev" environment and has one error.

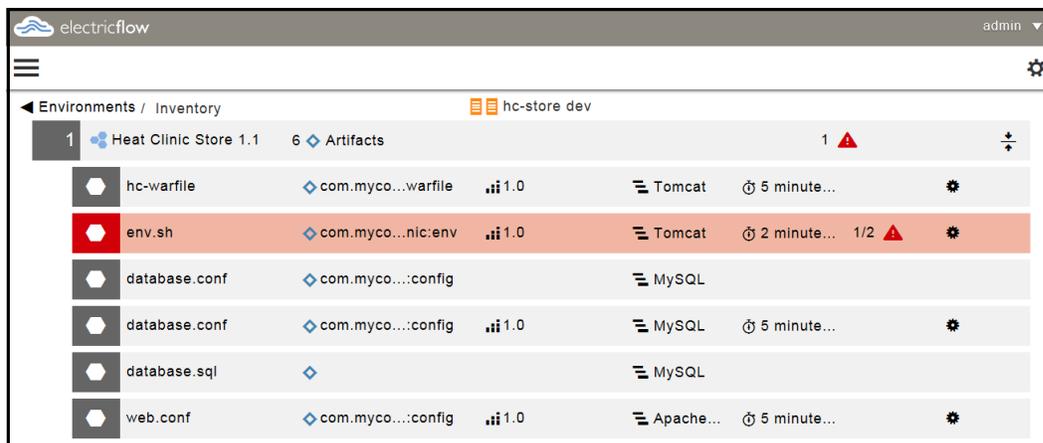


The first level of the Environment Inventory appears.



In the second level, you can view more details. Click the View arrows at the end of the row.

The applications mapped to this environment appear.



To show more details in the third level, click the process icon at the end of the env.sh row.

Step	Status	Date	Time	Location	Duration	Progress	Completion %	Actions
8_Deploy_Heat Clinic Store 1.1_Default_20140730...	Aborted	Jul 30, 2014	5:19	Pacifi...	00:54	100%	100%	⌵
Install Tomcat env settings	Error	Jul 30, 2014	5:19	Pacifi...	00:53	100%	100%	⌵
get files	Error	Jul 30, 2014	5:19	Pacifi...	00:52	100%	100%	⌵
place file	Error	Jul 30, 2014	5:19	Pacifi...	00:00	100%	100%	⌵
restart Tomcat	Error	Jul 30, 2014	5:19	Pacifi...	00:00	100%	100%	⌵
update web config	Skipped	Jul 30, 2014	5:19	Pacifi...	00:00	100%	100%	⌵
deploy app	Skipped	Jul 30, 2014	5:19	Pacifi...	00:00	100%	100%	⌵
update DB config	Skipped	Jul 30, 2014	5:19	Pacifi...	00:00	100%	100%	⌵
setup database	Skipped	Jul 30, 2014	5:19	Pacifi...	00:00	100%	100%	⌵
start tomcat	Skipped	Jul 30, 2014	5:19	Pacifi...	00:00	100%	100%	⌵
Create Link to application	Skipped	Jul 30, 2014	5:19	Pacifi...	00:00	100%	100%	⌵

In the fourth level, you can get more information for the steps in the Install component process by clicking on the "View details" arrow in the "get files," "place file," and "restart Tomcat" rows.

Step	Status	Date	Time	Location	Duration	Progress	Completion %	Actions
8_Deploy_Heat Clinic Store 1.1_Default_20140730...	Aborted	Jul 30, 2014	5:19	Pacifi...	00:54	100%	100%	⌵
Install Tomcat env settings	Error	Jul 30, 2014	5:19	Pacifi...	00:53	100%	100%	⌵
get files	Error	Jul 30, 2014	5:19	Pacifi...	00:52	100%	100%	⌵
I1	Aborted	Jul 30, 2014	5:19	Pacifi...	00:00	100%	100%	
resource-01	Success	Jul 30, 2014	5:19	Pacifi...	00:01	100%	100%	
place file	Error	Jul 30, 2014	5:19	Pacifi...	00:00	100%	100%	⌵
I1	Error	Jul 30, 2014	5:20	Pacifi...	00:00	100%	100%	
resource-01	Aborted	Jul 30, 2014	5:20	Pacifi...	00:00	100%	100%	
restart Tomcat	Error	Jul 30, 2014	5:19	Pacifi...	00:00	100%	100%	⌵
I1	Error	Jul 30, 2014	5:20	Pacifi...	00:00	100%	100%	
resource-01	Aborted	Jul 30, 2014	5:20	Pacifi...	00:00	100%	100%	

The Environment Inventory shows this information:

- Environment name: hc-store dev
- Name of the application mapped to this environment: Heat Clinic Store 1.1
- Components in the application: See the second level.
- Number of the artifacts associated with components: Six. For details, see the first and second levels.

- Each component has an artifact with a version number: See the second level.
- Each component is also in an application tier: See the second level.
- Time when the artifact was deployed: See the third and fourth levels.
- Error counts if there are any errors: See the third and fourth levels.
- Number of resources that are successfully assigned to applications on a per-artifact basis: See the third and fourth levels.

**Related Topics:**

- [ElectricFlow Icons](#)
- [Environment Inventory](#)
- [Environments List](#)
- [Viewing Results and Troubleshooting](#)

## Application Inventory

**How to get here:**

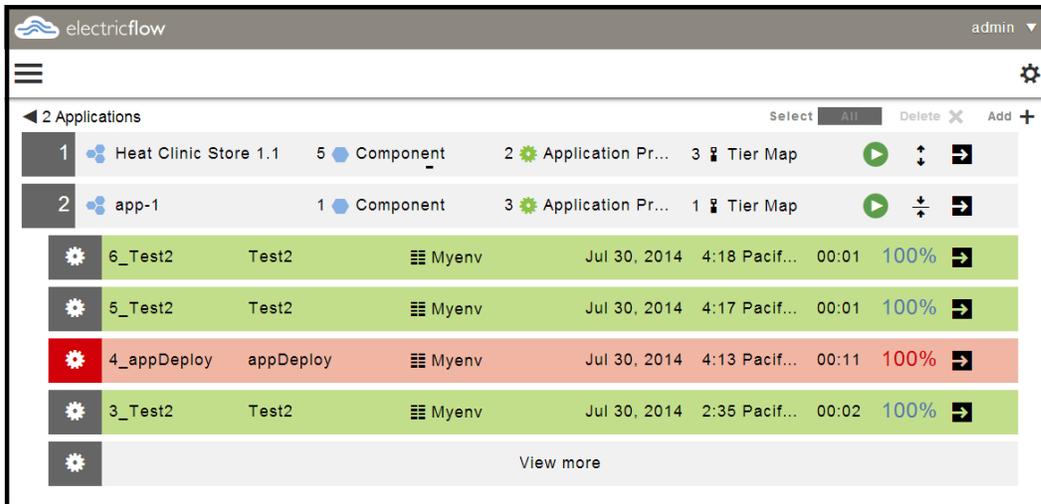
- From the Home page, click the **Applications** launch pad.
- From the main menu on the Home page, click the **Applications** destination.

The Application Inventory is the state of the application at a point in time.

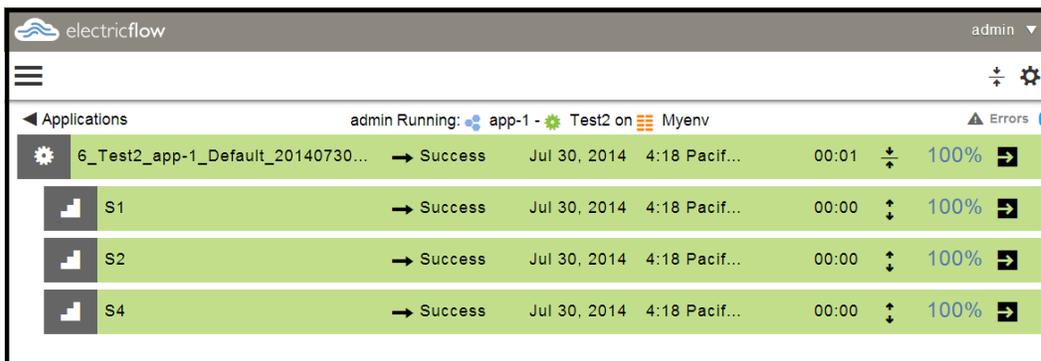
- When an application is running, you can see the progress as it runs.
- After an application runs, you can see the results for any object in application.

Click the "View details" icon in a row to see more details about object.

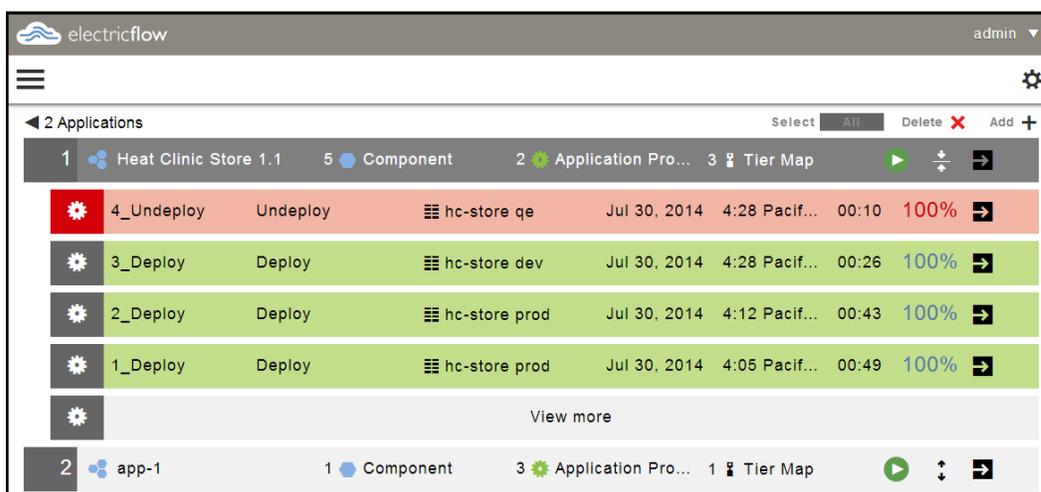
The following example shows that the application called "app-1" ran successfully on July 30, 2014, at 4:18 pm.



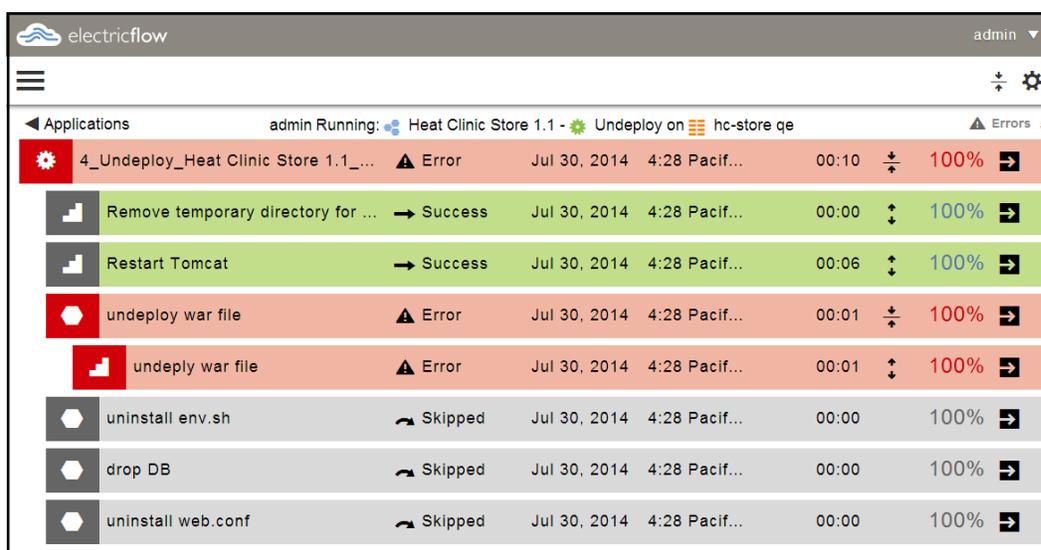
Click the right arrow in the 6\_Test2 row to see the detailed results. The process has three steps, which were all successfully run.



The following shows that the application called "Heat Store Clinic 1.1" did not run successfully on July 30, 2014, at 4:28 p.m.



Click the right arrow in the 4\_Undeploy row to see the detailed results. The process has two steps that ran successfully, a component called "undeploy war file" with errors, three skipped objects, and five errors.



To troubleshoot the errors, you can click the right arrow in one of the "undeploy war file" rows and you will go a Job Step Detail page in the ElectricCommander platform.

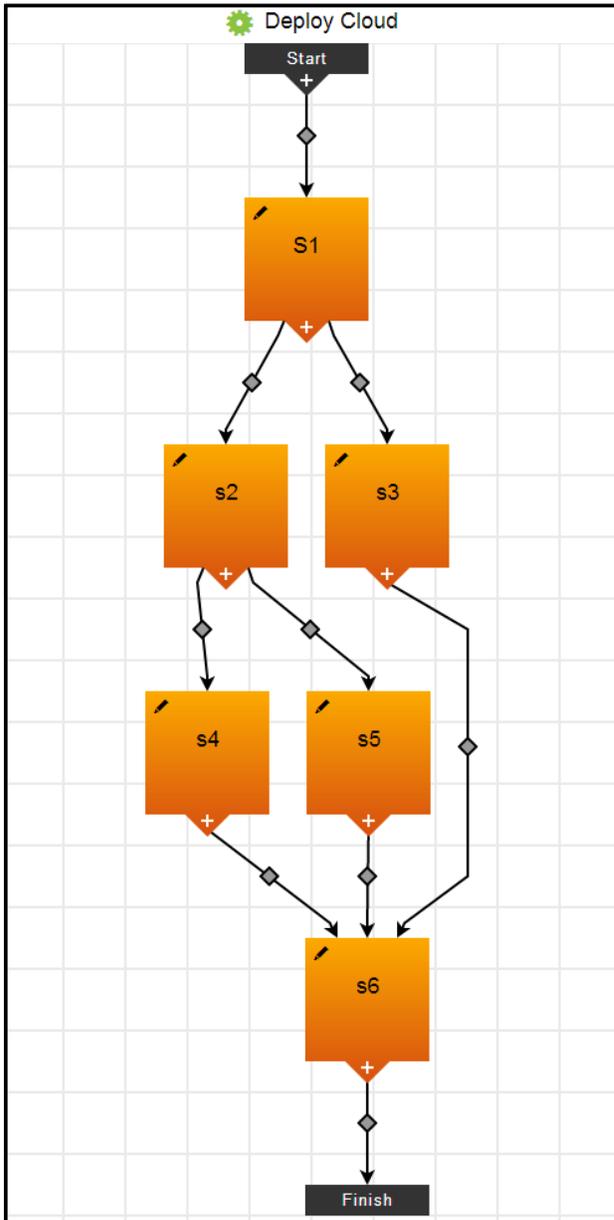
#### Related Topics:

- [ElectricFlow Icons](#)
- [Inventory Tracking](#)
- [Home Page](#)
- [Viewing Results and Troubleshooting](#)

## Viewing Job Details

When you run a process in an application, the system records the results of the process as each step is performed. You can see a summary of the results in the Applications Inventory.

This example shows the results of running the Deploy Web application process, which consists of the Deploy Cloud component process.



When you run the Deploy Web process, you can see the status of the process as it runs in the Application Inventory.

You can also see which application processes were run, with the latest process appearing first.

5 Applications					Select	All	Delete	+	Add
1	Corvet 3.0	1 Component	0 Application Process	0 Tier Map					
2	Crystal's App	1 Component	0 Application Process	0 Tier Map					
3	Heat Clinic Store 1.1	5 Component	2 Application Process	3 Tier Map					
4	Web Servers	1 Component	1 Application Process	1 Tier Map					
	2_Deploy Web	Deploy Web	hc-store dev	Jul 28, 2014 5:55 Pacif...	00:04	100%			
	1_Deploy Web	Deploy Web	hc-store dev	Jul 28, 2014 5:54 Pacif...	00:04	100%			
5	app-1	1 Component	1 Application Process	1 Tier Map					

To see more details about the process, click the process about which you want more information. If you want to learn more about the **2\_Deploy Web** process, click **2\_Deploy Web** in the Applications Inventory. It now shows the details for the process that you selected.

Applications					admin Running:	Web Servers - Deploy Web on	hc-store dev	Errors	0
	2_Deploy Web_Web Servers_Default_20140728175529			Jul 28, 2014 5:55 Pacif...	00:04	100%			
	Step 1			Jul 28, 2014 5:55 Pacif...	00:03	100%			
	S1			Jul 28, 2014 5:55 Pacif...	00:00	100%			
	s2			Jul 28, 2014 5:55 Pacif...	00:00	100%			
	s3			Jul 28, 2014 5:55 Pacif...	00:00	100%			
	s4			Jul 28, 2014 5:55 Pacif...	00:00	100%			
	s5			Jul 28, 2014 5:55 Pacif...	00:00	100%			
	s6			Jul 28, 2014 5:55 Pacif...	00:00	100%			

Notice the order of the process steps in the Applications Inventory. The order is not based on the branches in the process. Instead, the system lists the steps based on their level in the process.

- Step S1 is the first step in the process and is listed first. There are no other steps at this level so the next step is in the level following S1.
- The next step in the list is s2.
- Step s3 is on the same level as s2. There are no other steps at this level so the next step is in the level after this.
- The next step is s4.
- Step s5 is on the same level as s4. There are no other steps at this level so the next step is in the level after this.
- The last step is s6.

#### Related Topics:

- [ElectricFlow Icons](#)
- [Home Page](#)
- [Environments List](#)

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# Designing and Running Applications

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This topic describes how to design an application, run it, and view and troubleshoot the results. To design the application, you design the application and environment and then map the application to an environment in a tier map.

As you use ElectricFlow, remember that these terms have different meanings within ElectricFlow and when you use ElectricFlow to deploy your software or application:

## Application

- Within ElectricFlow—The application that you design and run (deploy) to produce your software for continuous delivery across different pipelines.
- Using ElectricFlow—The software, system or application that you build, test, install, implement, release, and deploy using ElectricFlow. This is the end product of using ElectricFlow.

## Deploy

- Within ElectricFlow—Running the application that you designed in ElectricFlow. The end product is your software, system, or application. Deploy is a synonym of run in ElectricFlow.
- Using ElectricFlow—All the processes or actions to develop and run your software in its environment, including building, testing, implementing, installing, configuring, making changes, and releasing.

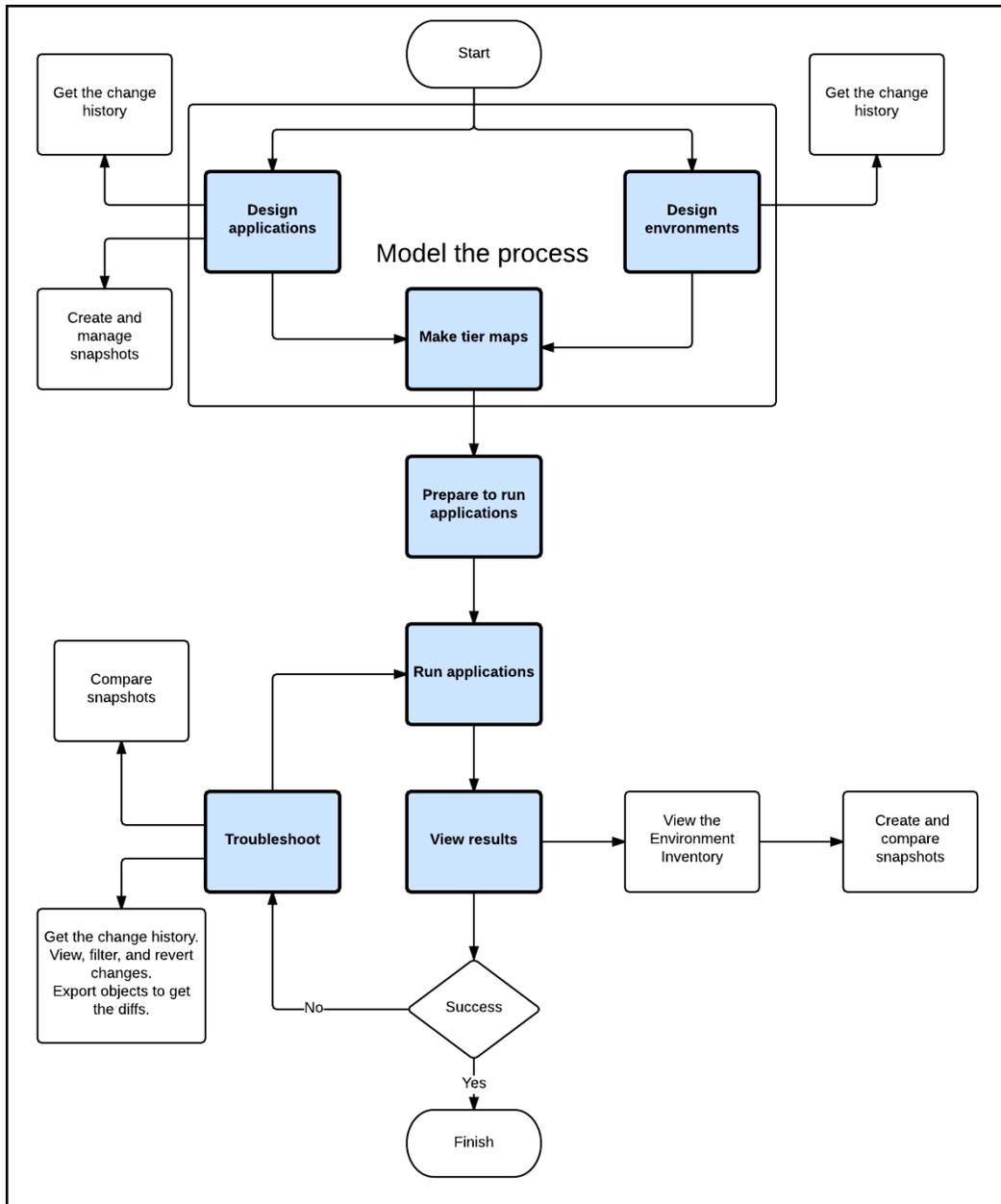
## Run

- Within ElectricFlow—Running the application that you designed. The end product is your software, system, or application. Run is a synonym of deploy in ElectricFlow.
- Using ElectricFlow—All the processes or actions to use software in its environment, including implementing, installing, configuring, debugging, troubleshooting, and releasing.

The following tasks describe how to design and run applications at a high level.

1. [Designing Applications](#)
2. [Designing Environments](#)
3. [Making Tier Maps](#)
4. [Preparing to Run Applications](#)
5. [Running Applications](#)
6. [Viewing Results and Troubleshooting](#)

For information about the UI, see the [ElectricFlow User Interfaces](#) topics.



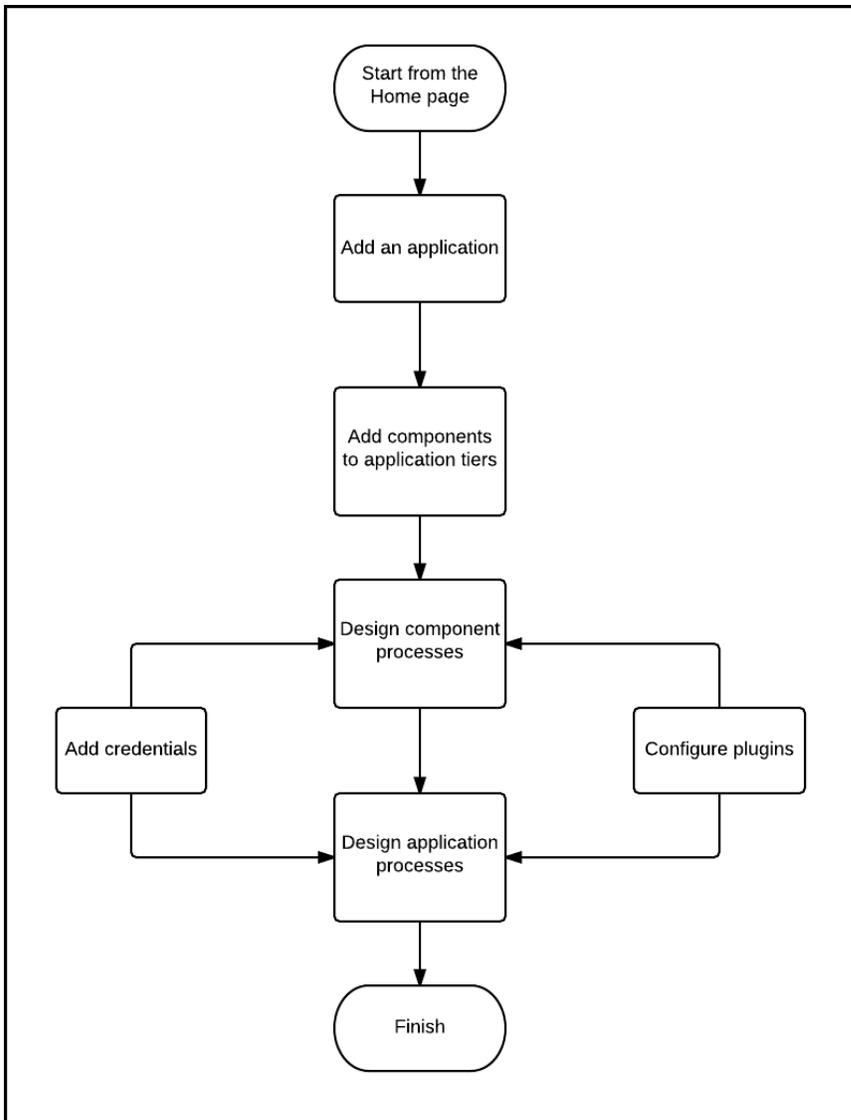
**Note:** Within ElectricFlow, the terms *deploy* and *run* are synonymous. When you deploy an application in ElectricFlow, you run the ElectricFlow application to produce your software or application.

#### Related Topics:

[Change Tracking](#)

[Snapshots](#)

## Designing Applications



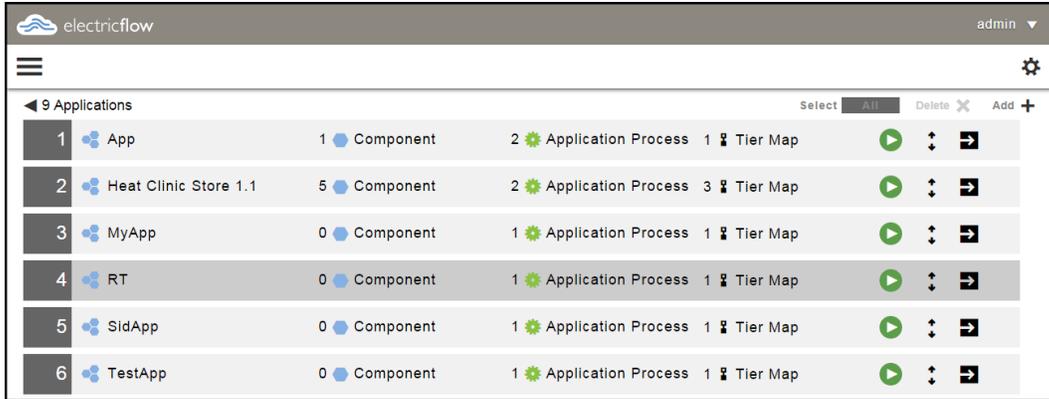
1. Add an application.
2. Add components to the application tiers.
3. Design component processes.
4. Design application processes.

## Adding an Application

Starting from the Home page:

1. Go to the Applications List.

Example:

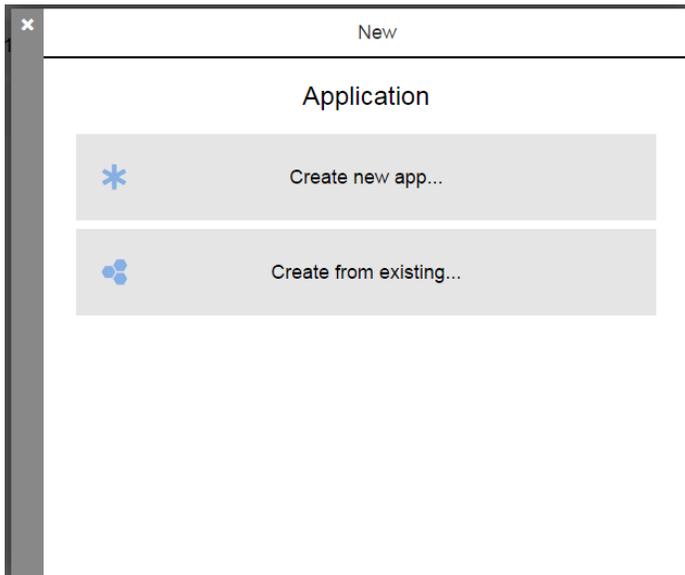


2. Click the "Add new application" icon in the upper right corner.

Example:



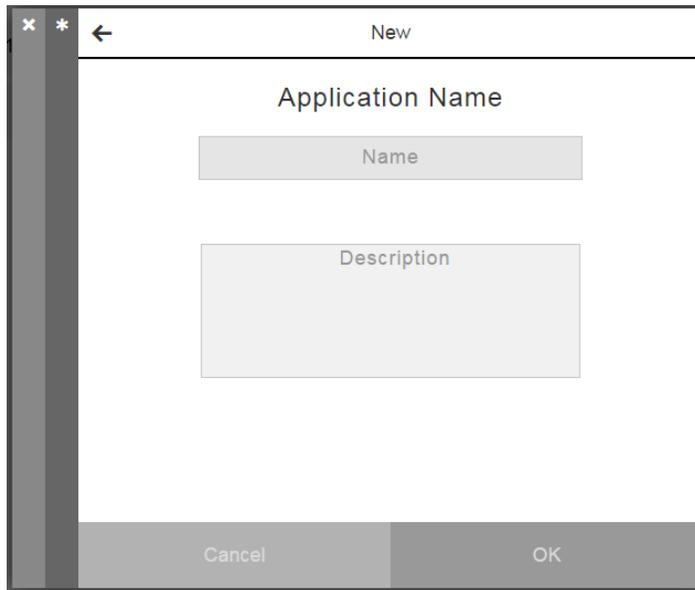
The New Application wizard appears.



3. Click **Create new app** or **Create from existing**, and go to the appropriate next step.

4. Click **Create new** to add a new application.

The New Application Name wizard opens.



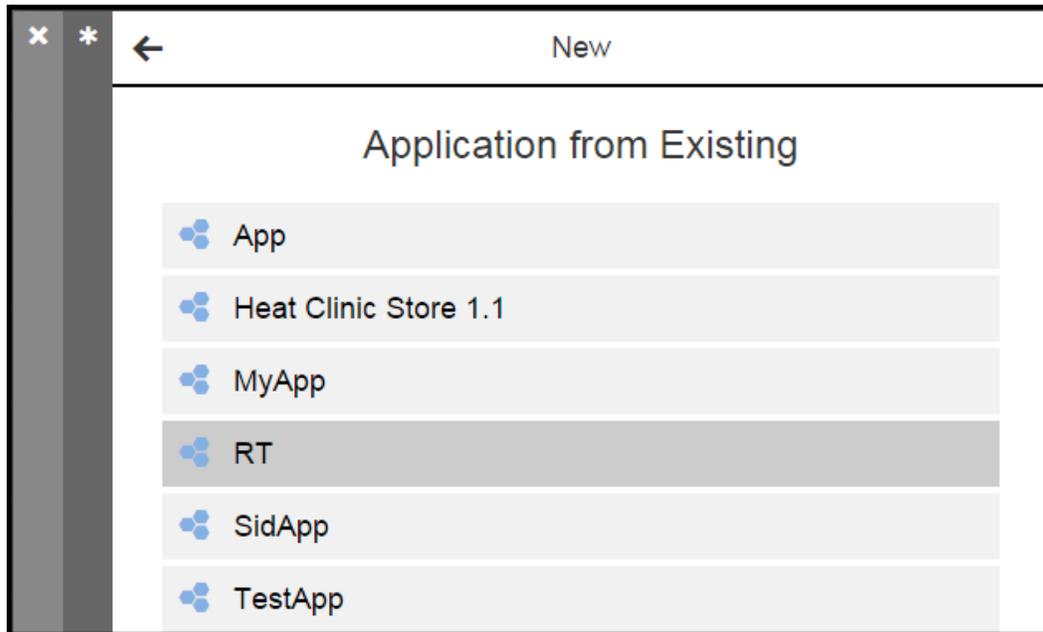
The image shows a dialog box titled "New" with a back arrow icon on the left. The main content area is titled "Application Name" and contains two input fields: a smaller "Name" field and a larger "Description" field. At the bottom of the dialog, there are two buttons: "Cancel" on the left and "OK" on the right.

- a. Enter a name in the Name field.
- b. (Optional) Enter a description of the application in the Description field.
- c. Click **OK**.

5. Click **Create from existing** to add an application based on an existing one.

This application has the same objects (components, artifacts, and application processes) as the existing application. However, it is not an exact copy of it because you need to configure new tier maps.

The New Application from Existing wizard opens.

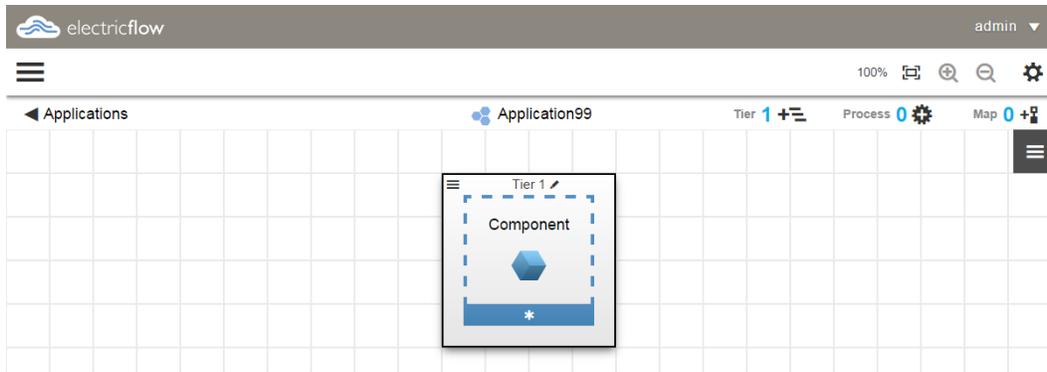


- a. Select an application. The New Application Name wizard opens with the name of the application you selected in the Name field.
- b. Enter a name in the Name field. It must not match the name of another application in the project.
- c. (Optional) Enter a description of the application in the Description field.
- d. Click **OK**.

## Adding Components to the Application Tiers

If you are designing a new application, the Applications Designer has an application tier called Tier 1 with one component called Component.

Example:



Starting in the Applications Designer:

1. Click the star icon (\*) in the component in the application tier.

The New Component dialog box opens.

Example:

New Component

Name

Description

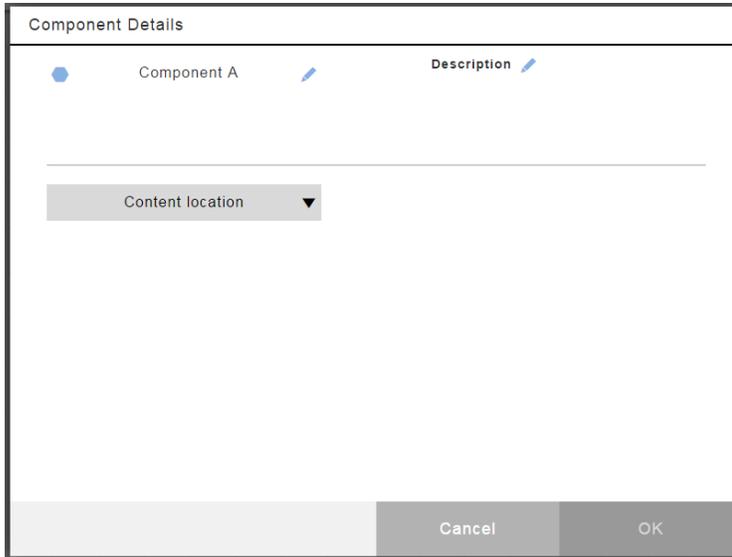
Cancel Next

2. Enter a name in the Name field.
3. (Optional) Enter a description of the component in the Description field.

4. Click **Next**.

The Component Details page opens.

Example:

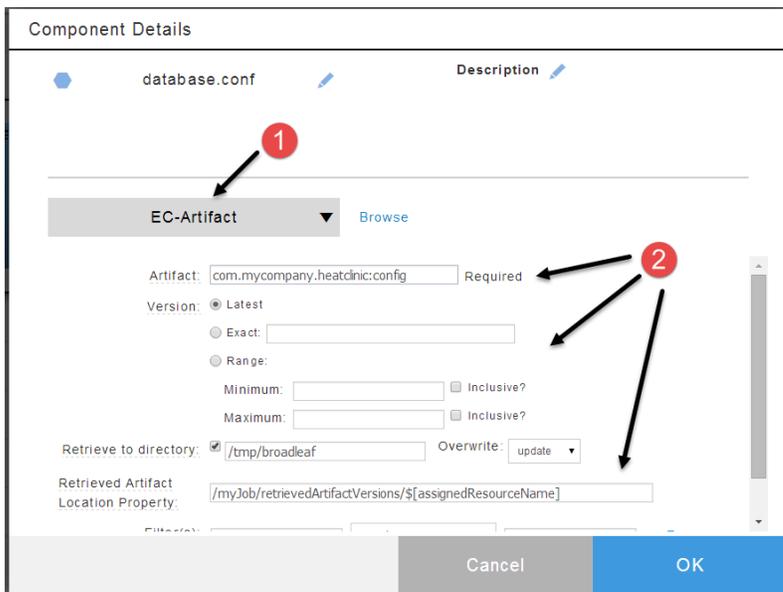


5. Click the **Current Location** field. The list of available artifacts appears.
6. Select an artifact type.

The information needed to define the artifact appears below.

7. Enter the appropriate information in the fields.

Example:

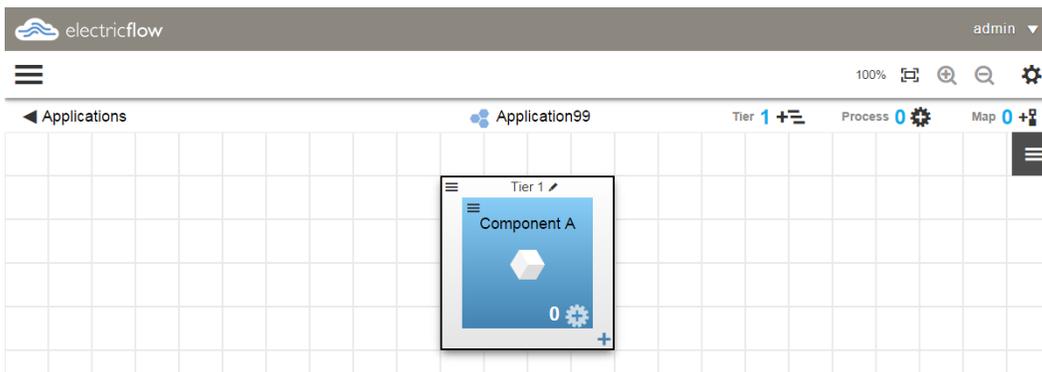


1	Content Location of the component
2	Component details that vary depending on the Content Location

8. Click **OK**.

The Applications Designer appears again and shows that there is a component with the name you specified in the application tier.

Example:



9. To add a component to the same tier, click the plus sign in the lower right corner of the tier.

A new undefined component appears in the tier.

10. Configure this component the same way you did the first one.

## Designing Component Processes

Starting in the Applications Designer:

1. Click the "Add component process" icon in the lower right corner of the component.

The Component Process Details dialog box opens.

2. Enter information about the component process in the Component Process Details dialog box.

Example:

Field	Description and How to Set It
Name	Name of the process step
Description	Description of the process step

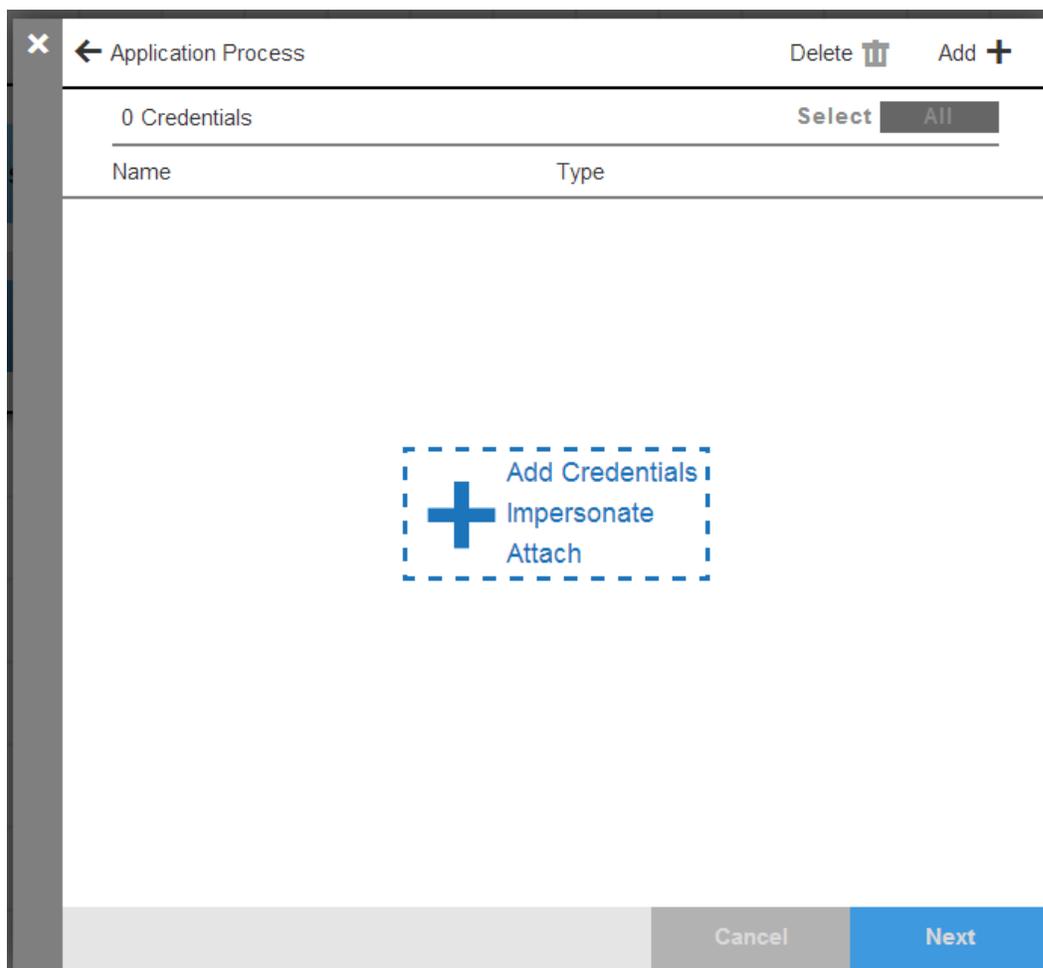
Field	Description and How to Set It
Process Type	<p>Type of process. The default is <b>Deploy</b>.</p> <p>To set the process type:</p> <ol style="list-style-type: none"> <li>1. Click the <b>Type</b> field to select the process type.</li> <li>2. Select one of these options: <ul style="list-style-type: none"> <li><b>Deploy</b>—Enables inventory tracking. The ElectricCommander server tracks the artifacts deployed to environments.</li> <li><b>Undeploy</b>—The next time that the process is run, the ElectricCommander server removes information about the artifacts deployed to environments.</li> <li><b>Other</b>—Disables inventory tracking.</li> </ul> </li> </ol>
Credential	<p>An object consisting of a user name and password that ElectricFlow uses to run a process step.</p> <p>The dialog box displays the number of credentials for the process step, which are the same credentials that you use with procedures, steps, and schedules in the ElectricCommander platform.</p> <p>You can only impersonate one credential. To set the process type, see <a href="#">Adding Credentials</a>.</p>
Workspace	<p>Area in the disk space where the files and results of the job step are stored.</p> <p>To set the workspace, click the <b>Workspace</b> field to open a drop-down list of workspaces in the ElectricCloud platform and select a workspace.</p> <p>For more information about workspaces, go to the ElectricCommander Help &gt; Workspaces and Disk Management. To set the workspace, click Workspace to open a drop-down list of workspaces in the ElectricCloud platform. Select a workspace, and click OK.</p>
Time limit	<p>Maximum length of time that the step is allowed to run. After the time specified, the step is aborted,</p> <p>To set the time limit, enter the time and select the unit of time: seconds, minutes, or hours.</p> <p>For information about time limits for procedure job steps in the ElectricCommander platform, go to the ElectricCommander Help &gt; API Commands.</p>

3. (Optional) If you need to add credentials, do the following:

**IMPORTANT:**  
 When you impersonate a credential, make sure that the impersonated user has the absolute path to the bin directories in the \$PATH environment.  
 If you define a process step with a command, you must enter the absolute path in the **Post Processor** and **Shell** fields in the Define Step dialog box.

1. Click in the Add Credentials field.

Example:



2. To impersonate one credential, select **Impersonate** in the Type field.
3. Click the **Select Credential** field to open a drop-down list of credentials for the process step.
4. Select a credential.

5. Click **OK**.

The Credentials dialog box now shows the one credential for impersonation.

6. To attach one or more credential to the process step, select **Attach** in the Type field.
7. Click the **Select Credential** field to open a drop-down list of credentials for the process step.
8. Select a credential.
9. Click **OK**.

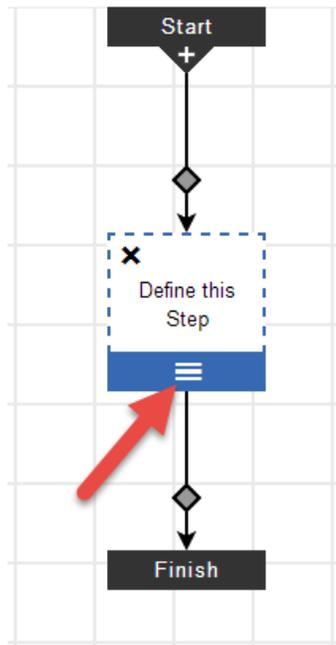
The Credentials dialog box now shows the attached credentials.

4. Click **OK**.

The Component Process Designer opens.

5. In the new process step, click the menu icon below "Define this Step" to define it.

Example:



The Component Process Step dialog box opens.

6. Enter information about the step in the dialog box.

Example:

The image shows a dialog box titled "New Step" with a close button (X) in the top-left corner. The main heading inside is "Component Process Step".

The form contains the following fields and controls:

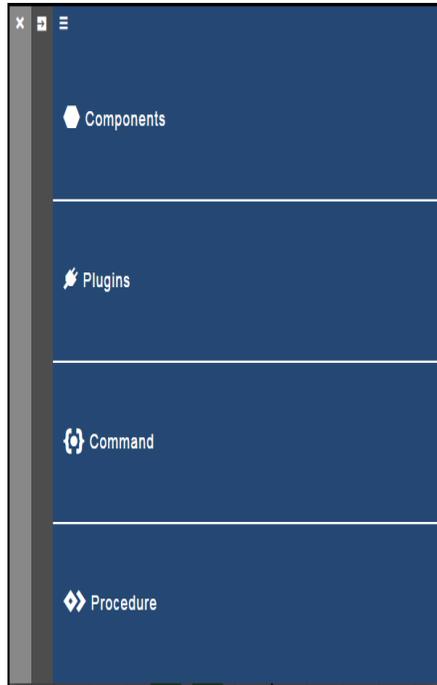
- Step name:** A text input field containing "Name" with a blue highlight. To its right is the label "Required".
- Description:** A large, empty text area.
- Credential:** A field containing the value "0" with a right-pointing arrow (>).
- Workspace:** A dropdown menu with the text "Select" and a downward arrow (▼).
- Time limit:** A field containing the value "0" next to a dropdown menu with the text "Seconds" and a downward arrow (▼).

At the bottom of the dialog, there are two buttons: "Cancel" and "Next".

7. Click **Next**.

The Process Step wizard opens.

Example:



8. To define the step, enter information in the wizards that follow.

When you are done, the defined step now appears in the process in the Component Process Designer.

9. Define more steps in the process.

For more details, see these sections: [Defining Process Steps](#), [Adding Credentials](#), and [Configuring Process Branching](#).

You can also drag and drop a step into the process. See the "[Using the Drag and Drop Method to Add Process Steps](#)" section. .

## Designing Application Processes

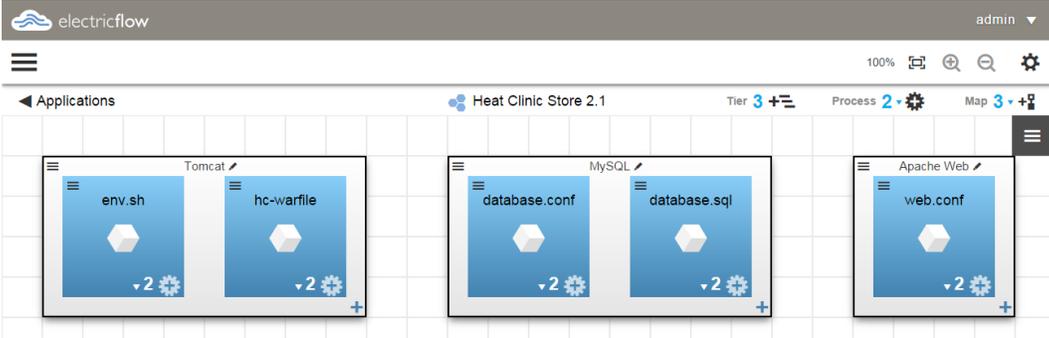
Starting in the Applications Designer:

1. Click the "Add application process" icon in the upper right corner to add an application.

Example:



Example:



The New Application Process Details dialog box opens.

2. Enter information in the New Application Process Details dialog box, and click **OK**.

If you need to add credentials, see Step 3 in the previous section.

Example:

The screenshot shows a dialog box titled "New" with the subtitle "Application Process Details". The dialog contains the following fields and controls:

- Name:** A text input field with a blue border.
- Description:** A large text area for entering details.
- Credential:** A text input field containing the number "0", with an "Optional" label and a right-pointing chevron.
- Workspace:** A dropdown menu currently showing "default", with an "Optional" label.
- Time limit:** A text input field containing "0", followed by a dropdown menu showing "Seconds", and an "Optional" label.

At the bottom of the dialog are two buttons: "Cancel" on the left and "OK" on the right.

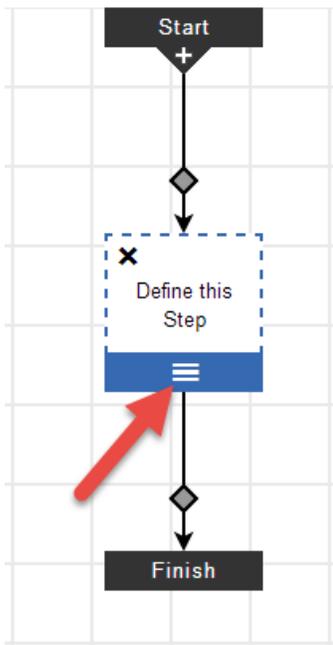
Field	Description and How to Set It
Name	Name of the process step
Description	Description of the process step
Credential	<p>An object consisting of a user name and password that ElectricFlow uses to run a process step.</p> <p>The dialog box displays the number of credentials for the process step, which are the same credentials that you use with procedures, steps, and schedules in the ElectricCommander platform.</p> <p>You can only impersonate one credential.</p>

Field	Description and How to Set It
Workspace	<p>Area in the disk space where the files and results of the job step are stored.</p> <p>To set the workspace, click the <b>Workspace</b> field to open a drop-down list of workspaces in the ElectricCommander platform and select a workspace.</p> <p>For more information about workspaces, go to the ElectricCommander Help &gt; Workspaces and Disk Management.</p> <p>To set the workspace, click Workspace to open a drop-down list of workspaces in the ElectricCommander platform. select a workspace, and click <b>OK</b>.</p>
Time limit	<p>Maximum length of time that the step is allowed to run. After the time specified, the step is aborted,</p> <p>To set the time limit, enter the time and select the unit of time: seconds, minutes, or hours.</p> <p>For information about time limits for procedure job steps in the ElectricCommander platform, go to the ElectricCommander Help &gt; API Commands.</p>

The Applications Process Designer opens.

3. In the new process step, click the menu icon below "Define this Step" to define it.

Example:



The Application Process Step dialog box opens.

4. Enter information about the step in the dialog box.

Example:

The image shows a dialog box titled "New Step" with a close button (X) in the top-left corner. The main title inside the dialog is "Application Process Step". The form contains the following fields:

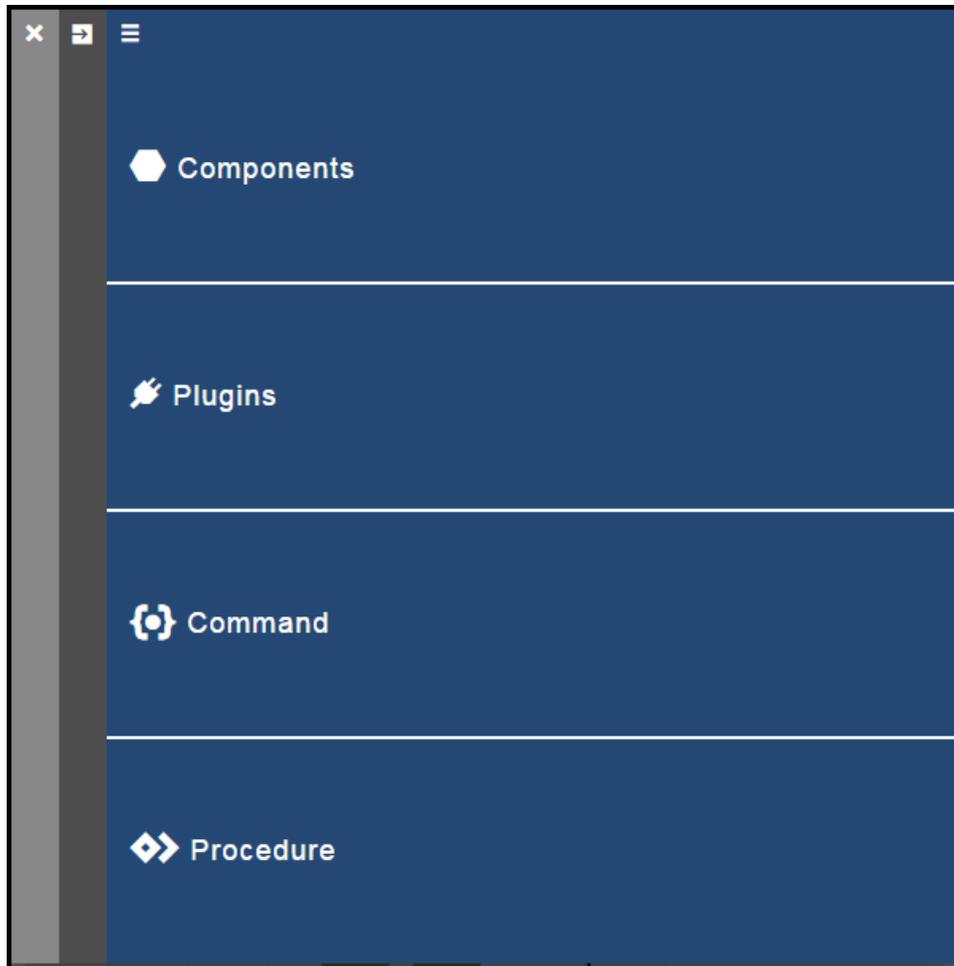
- Step name:** A text input field containing "Name" with a "Required" label to its right.
- Description:** A large text area.
- Tier:** A dropdown menu showing "Tier 1" with a downward arrow and a "Required" label to its right.
- Credential:** A text input field containing "0" with a right-pointing arrow to its right.
- Workspace:** A dropdown menu with a downward arrow.
- Time limit:** A text input field containing "0" next to a dropdown menu showing "Seconds" with a downward arrow.

At the bottom of the dialog, there are two buttons: "Cancel" and "Next".

5. Click **Next**.

The Process Step wizard opens.

Example:



6. To define the step, enter information in the wizards that follow.
7. When you are done, the defined step now appears in the process in the Applications Process Designer.
8. Define more steps in the process.

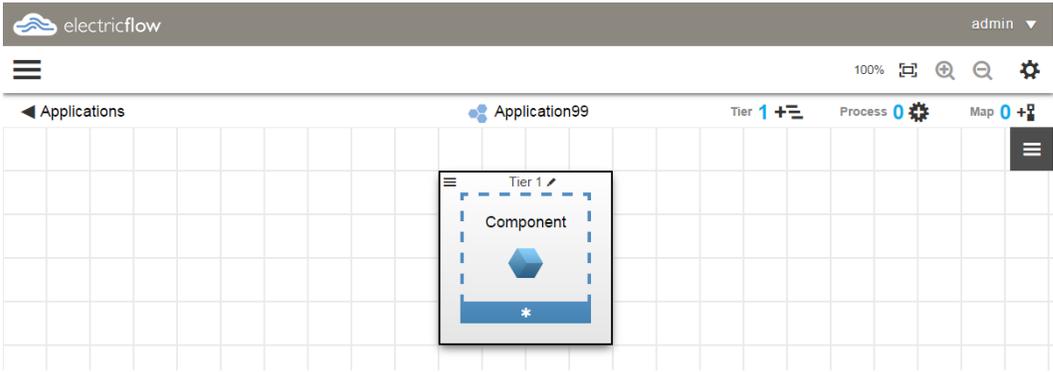
For more details, see these sections: [Defining Process Steps](#), [Adding Credentials](#), and [Configuring Process Branching](#).

You can also drag and drop a step into the process. See the "[Using the Drag and Drop Method to Add Process Steps](#)" section. .

## Adding Components to the Application Tiers

If you are designing a new application, the Applications Designer has an application tier called Tier 1 with one component called Component.

Example:

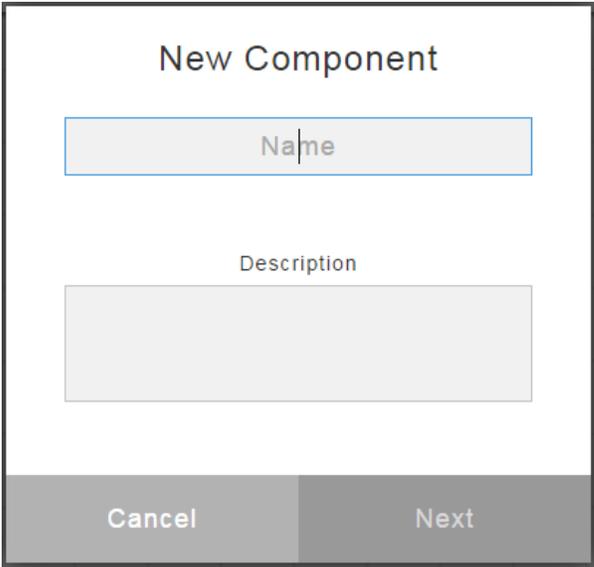


Starting in the Applications Designer:

- 1. Click the star icon (\*) in the component in the new application tier.

The New Component dialog box opens.

Example:

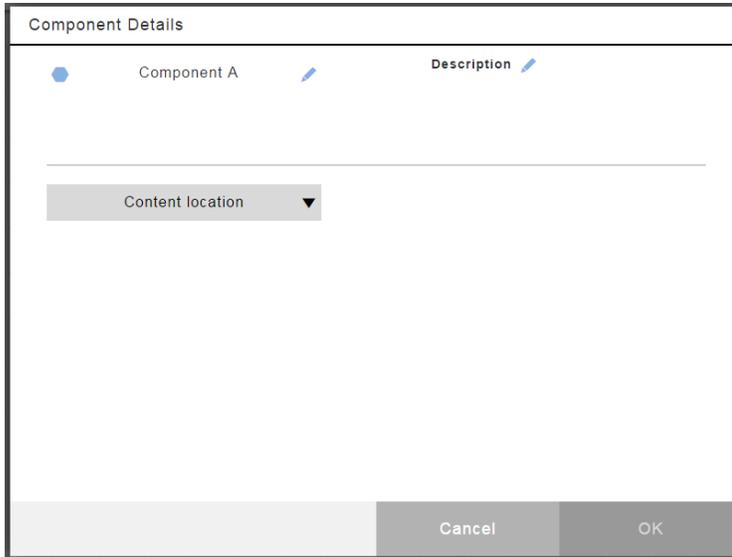


- 2. Enter a name in the Name field.
- 3. (Optional) Enter a description of the component in the Description field.

4. Click **Next**.

The Component Details page opens.

Example:

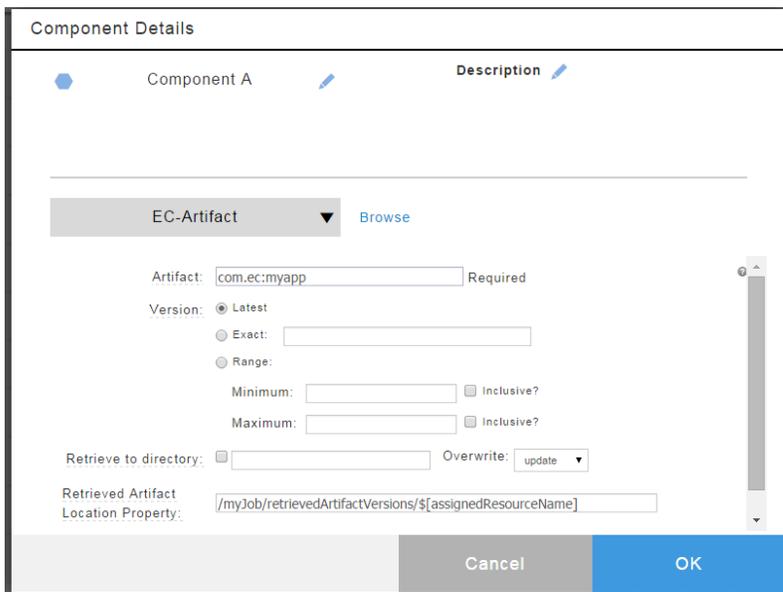


5. Click the **Current Location** field. The list of available artifacts appears.
6. Select an artifact type.

The information needed to define the artifact appears below.

7. Enter the appropriate information in the fields.

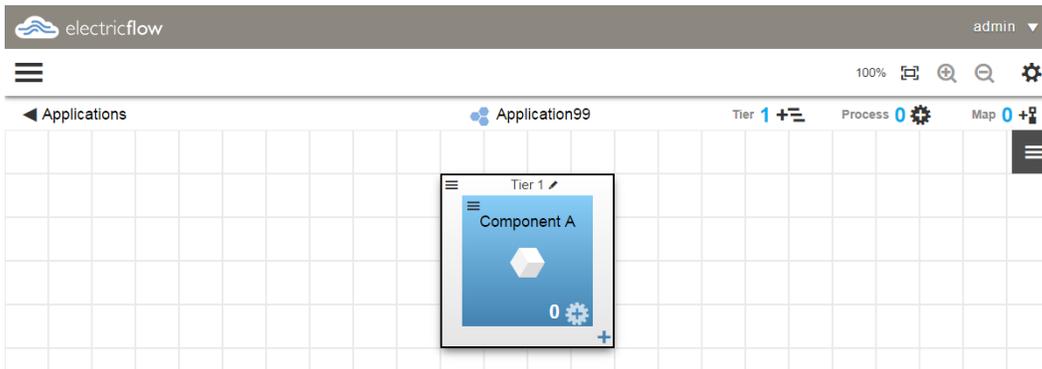
Example:



8. Click **OK**.

The Applications Designer re-appears and shows that there are a component with the name you specified in the application tier.

Example:



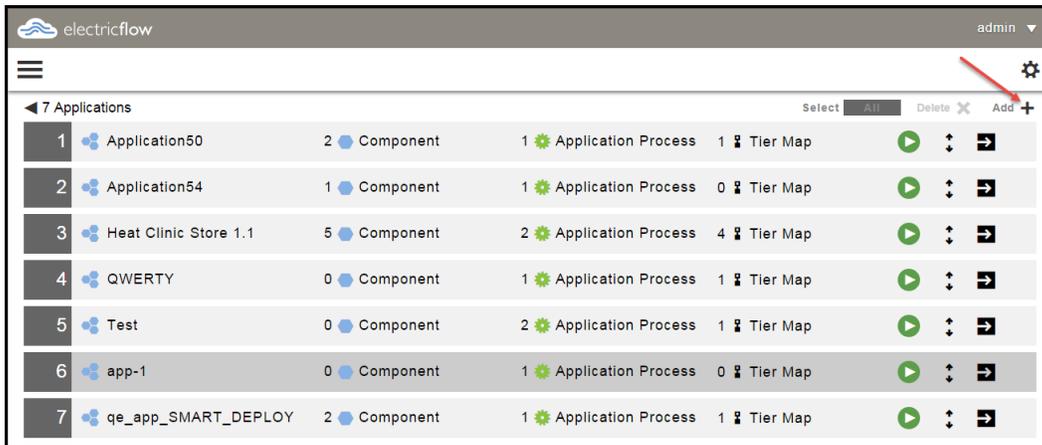
9. To add a component to the same tier, click the plus sign in the lower right corner of the tier. A new undefined component appears in the tier.
10. Configure this component like you did the first one.

## Adding an Application

Starting from the Home page:

1. Go to the Applications List.

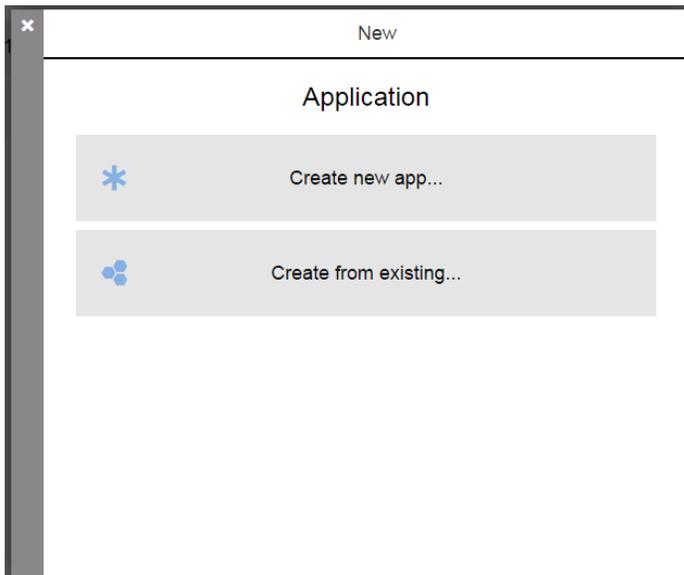
Example:



2. Click the plus sign (+) in the upper right corner (see the example in the previous step).

The New Application dialog box appears.

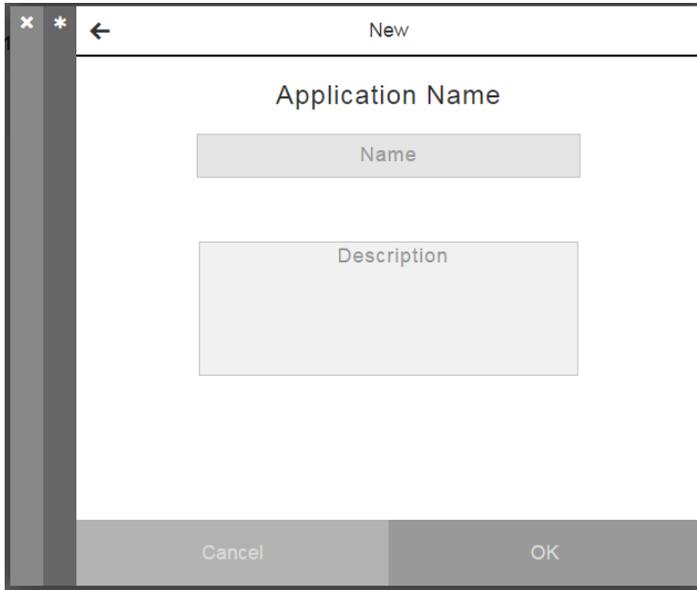
Example:



3. Click **Create new** to add a new application.

The New Application Name dialog box opens.

Example:



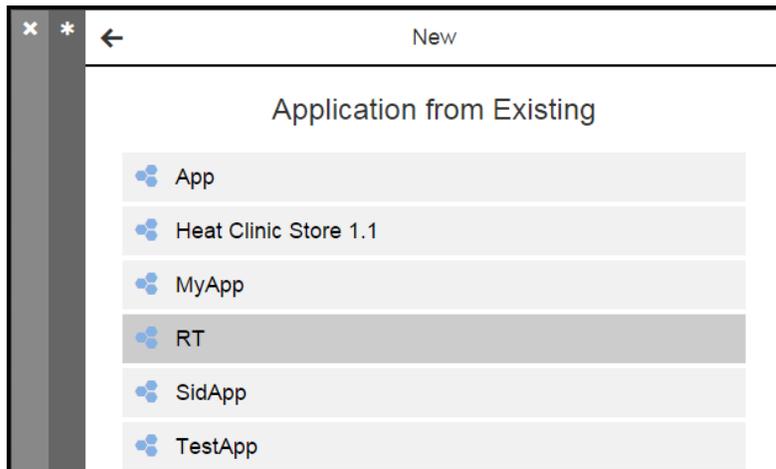
The image shows a dialog box titled "New" with a back arrow in the top-left corner. The main heading is "Application Name". Below this heading are two input fields: a "Name" field and a "Description" field. The "Name" field is a single-line text box, and the "Description" field is a larger multi-line text box. At the bottom of the dialog, there are two buttons: "Cancel" and "OK".

- a. Enter a name in the Name field.
- b. (Optional) Enter a description of the application in the Description field.
- c. Click **OK**.

4. Click **Create from existing** to add an application based on an existing one. This application has the same objects (components, component processes, and application processes) as the existing application but is not an exact copy of the it.

The New Application from Existing dialog box opens.

Example:



- a. Enter a name in the Name field. It must not match the name of another application in the project.
- b. (Optional) Enter a description of the application in the Description field.
- c. Click **OK**.

**Related Topics:**

- [ElectricFlow Icons](#)
- [Applications List](#)
- [New Applications](#)

## Designing Component Processes

Starting in the Applications Designer:

1. Click the "Add component process" icon in the lower right corner of the component.

The Component Process Details dialog box opens.

2. Enter information about the component process in the Component Process Details dialog box.

Example:

Field	Description and How to Set It
Name	Name of the process step
Description	Description of the process step

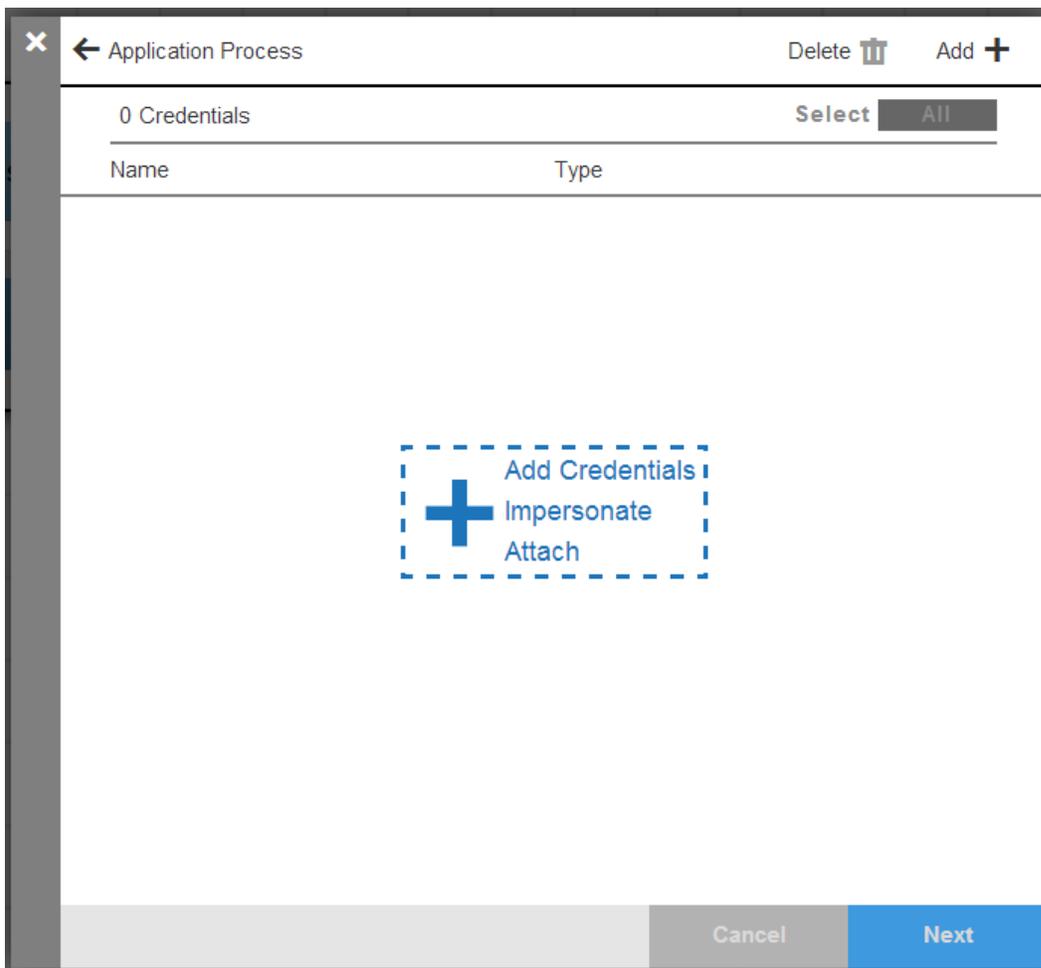
Field	Description and How to Set It
Process Type	<p>Type of process. The default is <b>Deploy</b>.</p> <p>To set the process type:</p> <ol style="list-style-type: none"> <li>1. Click the <b>Type</b> field to select the process type.</li> <li>2. Select one of these options: <ul style="list-style-type: none"> <li><b>Deploy</b>—Enables inventory tracking. The ElectricCommander server tracks the artifacts deployed to environments.</li> <li><b>Undeploy</b>—The next time that the process is run, the ElectricCommander server removes information about the artifacts deployed to environments.</li> <li><b>Other</b>—Disables inventory tracking.</li> </ul> </li> </ol>
Credential	<p>An object consisting of a user name and password that ElectricFlow uses to run a process step.</p> <p>The dialog box displays the number of credentials for the process step, which are the same credentials that you use with procedures, steps, and schedules in the ElectricCommander platform.</p> <p>You can only impersonate one credential. To set the process type, see <a href="#">Adding Credentials</a>.</p>
Workspace	<p>Area in the disk space where the files and results of the job step are stored.</p> <p>To set the workspace, click the <b>Workspace</b> field to open a drop-down list of workspaces in the ElectricCloud platform and select a workspace.</p> <p>For more information about workspaces, go to the ElectricCommander Help &gt; Workspaces and Disk Management. To set the workspace, click Workspace to open a drop-down list of workspaces in the ElectricCloud platform. Select a workspace, and click OK.</p>
Time limit	<p>Maximum length of time that the step is allowed to run. After the time specified, the step is aborted,</p> <p>To set the time limit, enter the time and select the unit of time: seconds, minutes, or hours.</p> <p>For information about time limits for procedure job steps in the ElectricCommander platform, go to the ElectricCommander Help &gt; API Commands.</p>

3. (Optional) To add credentials, do the following:

**IMPORTANT:**  
 When you impersonate a credential, make sure that the impersonated user has the absolute path to the bin directories in the \$PATH environment.  
 If you define a process step with a command, you must enter the absolute path in the **Post Processor** and **Shell** fields in the Define Step dialog box.

1. Click in the Add Credentials field.

Example:



2. To impersonate one credential, select **Impersonate** in the Type field.
3. Click the **Select Credential** field to open a drop-down list of credentials for the process step.
4. Select a credential.

5. Click **OK**.

The Credentials dialog box now shows the one credential for impersonation.

6. To attach one or more credential to the process step, select **Attach** in the Type field.
7. Click the **Select Credential** field to open a drop-down list of credentials for the process step.
8. Select a credential.
9. Click **OK**.

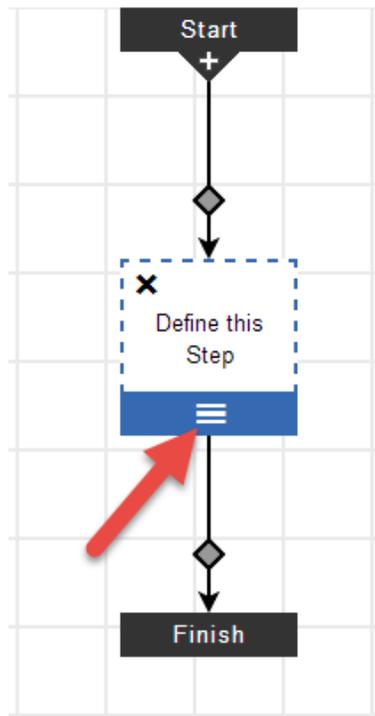
The Credentials dialog box now shows the attached credentials.

4. Click **OK**.

The Component Process Designer opens.

5. In the new process step, click the icon below "Define this Step" to define it.

Example:



The Component Process Step dialog box opens.

6. Enter information about the step in the dialog box.

Example:

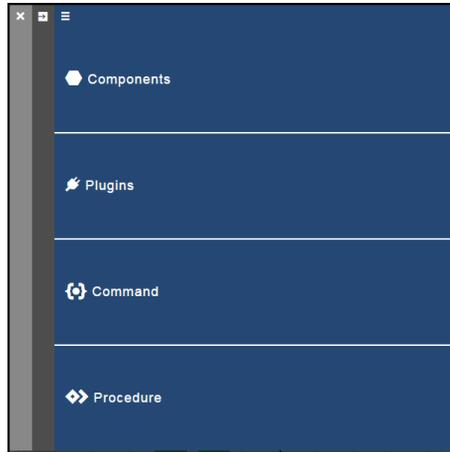
The image shows a 'New Step' dialog box with the following fields and controls:

- Step name:** A text input field containing 'Name', with a 'Required' label to its right.
- Description:** A large, empty text area.
- Credential:** A text input field containing '0' and a right-pointing arrow button.
- Workspace:** A dropdown menu with 'Select' as the current selection.
- Time limit:** A text input field containing '0' and a dropdown menu with 'Seconds' as the current selection.
- Buttons:** 'Cancel' and 'Next' buttons at the bottom right.

7. Click **Next**.

The Process Step wizard opens.

Example:



8. To define the step, enter information in the wizards that follow.

When you are done, the defined step now appears in the process in the Component Process Designer.

9. Define more steps in the process.

You can also drag and drop a step into the process.

**Related Topics:**

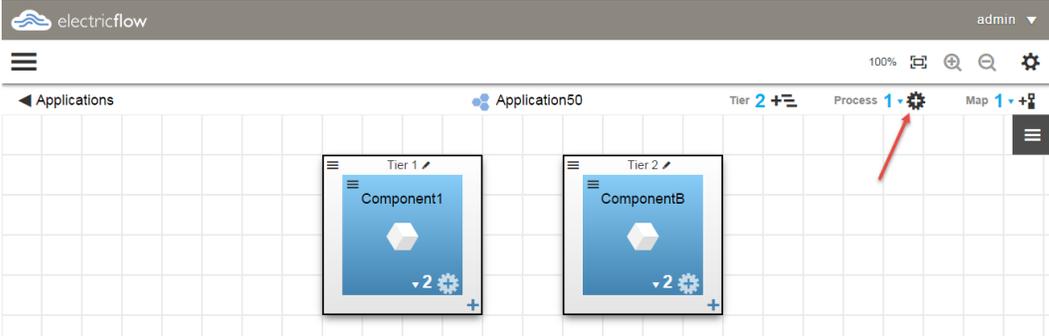
- [Designing Process Steps](#)
- [Adding Credentials](#)
- [Process Branching Using the Drag and Drop Method to Add Process Steps](#)
- [Using the Drag and Drop Method to Add Process Steps](#)

## Designing Application Processes

Starting in the Applications Designer:

1. Click the plus sign (+) in the upper right corner to add an application.

Example:



The New Application Process Details dialog box opens.

2. Enter information in the New Application Process Details dialog box, and click **OK**.

If you need to add credentials, see Step 3 in the previous section.

Example:

The screenshot shows a dialog box titled "New" with the subtitle "Application Process Details". It contains the following fields and controls:

- Name:** A text input field with a blue border.
- Description:** A large text area.
- Credential:** A text input field containing "0", with an "Optional" label and a right-pointing chevron.
- Workspace:** A dropdown menu showing "default", with an "Optional" label.
- Time limit:** A text input field containing "0", a dropdown menu showing "Seconds", and an "Optional" label.
- Buttons:** "Cancel" and "OK" buttons at the bottom.

Field	Description and How to Set It
Name	Name of the process step
Description	Description of the process step
Credential	<p>An object consisting of a user name and password that ElectricFlow uses to run a process step.</p> <p>The dialog box displays the number of credentials for the process step, which are the same credentials that you use with procedures, steps, and schedules in the ElectricCommander platform.</p> <p>You can only impersonate one credential.</p>

Field	Description and How to Set It
Workspace	<p>Area in the disk space where the files and results of the job step are stored.</p> <p>To set the workspace, click the <b>Workspace</b> field to open a drop-down list of workspaces in the ElectricCommander platform and select a workspace.</p> <p>For more information about workspaces, go to the ElectricCommander Help &gt; Workspaces and Disk Management.</p> <p>To set the workspace, click Workspace to open a drop-down list of workspaces in the ElectricCommander platform. select a workspace, and click <b>OK</b>.</p>
Time limit	<p>Maximum length of time that the step is allowed to run. After the time specified, the step is aborted,</p> <p>To set the time limit, enter the time and select the unit of time: seconds, minutes, or hours.</p> <p>For information about time limits for procedure job steps in the ElectricCommander platform, go to the ElectricCommander Help &gt; API Commands.</p>

The Applications Process Designer opens.

- (Optional) To add credentials, do the following:

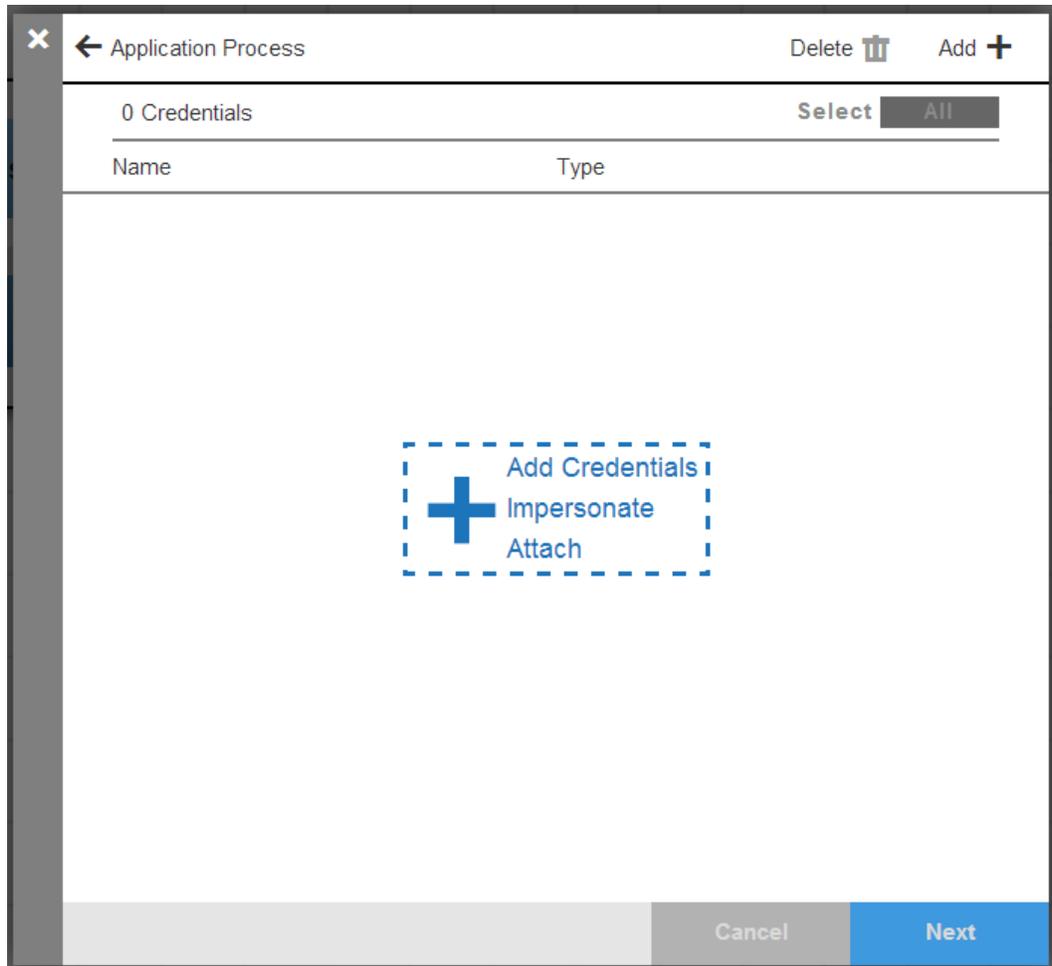
**Note:**

When you impersonate a credential, make sure that the impersonated user has the absolute path to the bin directories in the \$PATH environment.

If you define a process step with a command, you must enter the absolute path in the **Post Processor** and **Shell** fields in the Define Step dialog box.

- Click in the Add Credentials field.

Example:



The screenshot shows a dialog box titled "Application Process". At the top right, there are "Delete" and "Add +" buttons. Below the title bar, it says "0 Credentials" and "Select All". A table with two columns, "Name" and "Type", is present but empty. In the center of the table area, there is a dashed blue box containing a blue plus sign and the text "Add Credentials", "Impersonate", and "Attach". At the bottom of the dialog, there are "Cancel" and "Next" buttons.

- To impersonate one credential, select **Impersonate** in the Type field.
- Click the **Select Credential** field to open a drop-down list of credentials for the process step.
- Select a credential.

5. Click **OK**.

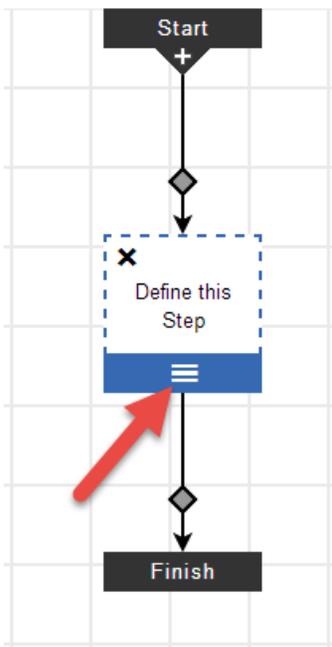
The Credentials dialog box now shows the one credential for impersonation.

6. To attach one or more credential to the process step, select **Attach** in the Type field.
7. Click the **Select Credential** field to open a drop-down list of credentials for the process step.
8. Select a credential.
9. Click **OK**.

The Credentials dialog box now shows the attached credentials.

4. In the new process step, click the icon below "Define this Step" to define it.

Example:



The Application Process Step dialog box opens.

5. Enter information about the step in the dialog box.

The image shows a 'New Step' dialog box with the following fields and controls:

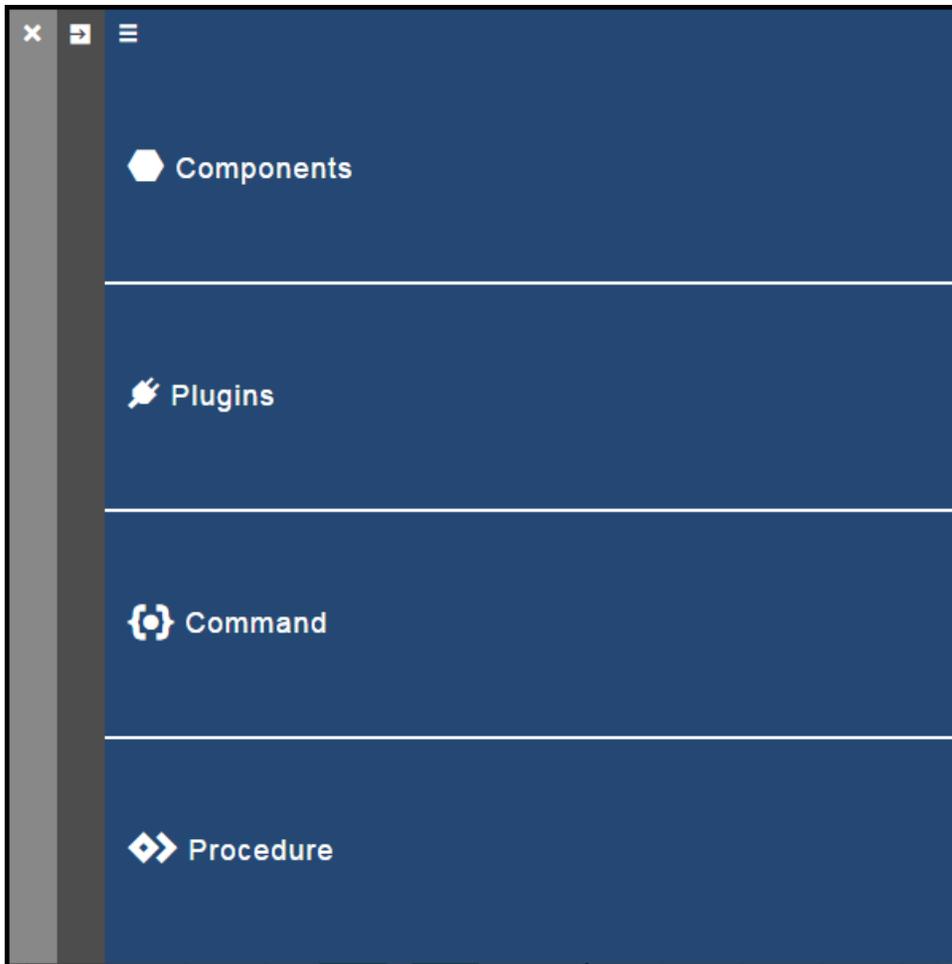
- Step name:** A text input field containing 'Name', marked as 'Required'.
- Description:** A large text area for entering details.
- Tier:** A dropdown menu currently set to 'Tier 1', marked as 'Required'.
- Credential:** A field containing '0' with a right-pointing arrow icon.
- Workspace:** A dropdown menu.
- Time limit:** A text input field containing '0' and a dropdown menu set to 'Seconds'.

At the bottom of the dialog are two buttons: 'Cancel' and 'Next'.

6. Click **Next**.

The Process Step wizard opens.

Example:



7. To define the step, enter information in the wizards that follow.

8. When you are done, the defined step now appears in the process in the Applications Process Designer.

9. Define more steps in the process.

You can also drag and drop a step into the process.

**Related Topics:**

- [Designing Process Steps](#)
- [Adding Credentials](#)
- [Process Branching](#)
- [Using the Drag and Drop Method to Add Process Steps](#)

## Using the Drag and Drop Method to Add Process Steps

### How to get to the Application Process Designer:

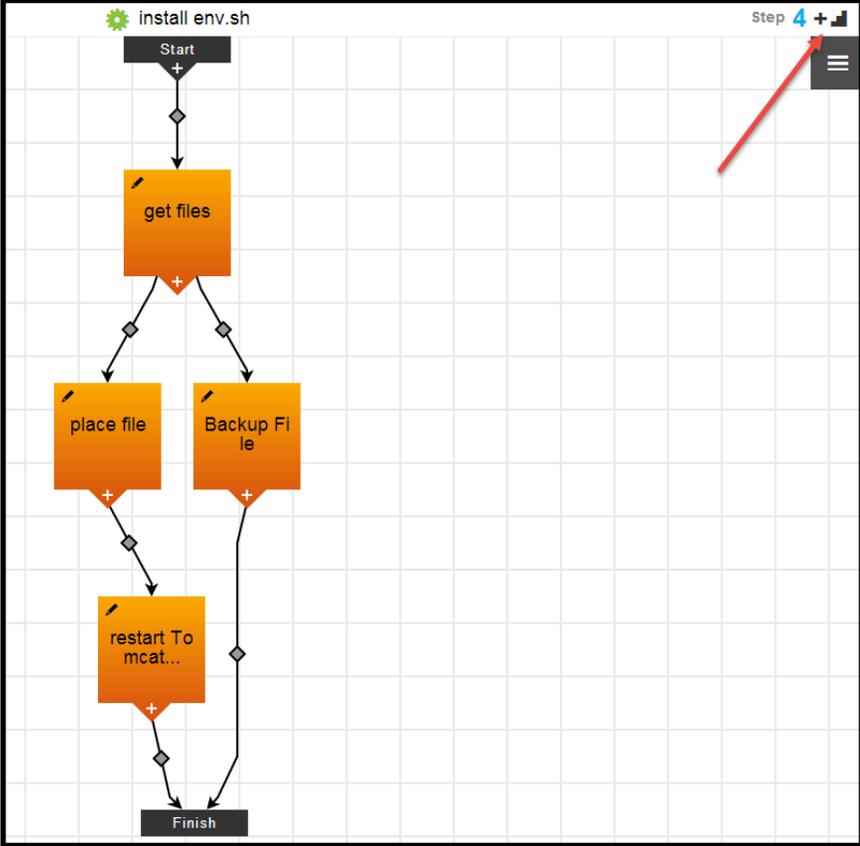
- Existing application process: From the Applications Designer, click the number-and-down-arrow icon and select an application. The Application Process Designer for that application process appears.
- New application process: From the Applications Designer, click the "Add application process" icon, set the parameters in the Application Process Details dialog box, and click **OK**. The Application Process Designer for the application appears.

### How to get to the Component Process Designer:

- Existing component process: From the Applications Designer, click the "Show component process" icon, and select a component process in the drop-down list. The Component Process Designer for that component process appears.
- New component process: From the Applications Designer, click the "Add component process" icon to a component, set the parameters in the Component Process Details dialog box, and click **OK**. The Component Process Designer for the component process appears.

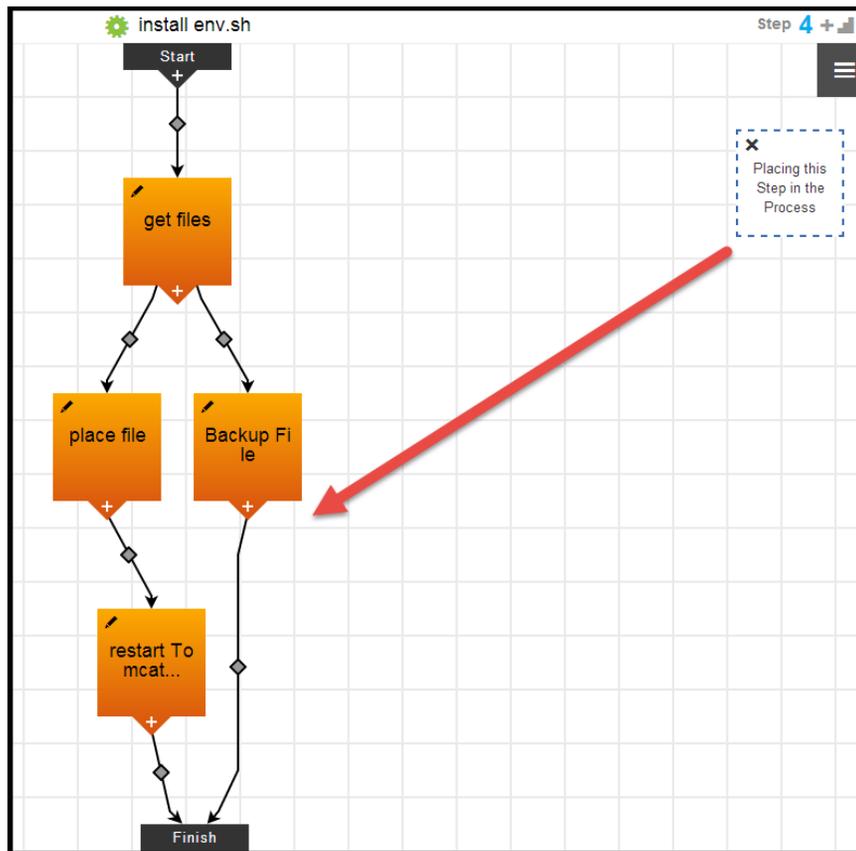
To drag and drop a new step to a component or application process:

1. Click the "Add Step" icon in the upper right corner of the Component Process or Application Process Designer.  
.A new undefined step appears.



2. Select the new step.

3. Drag the step to where you want to add it in the process.



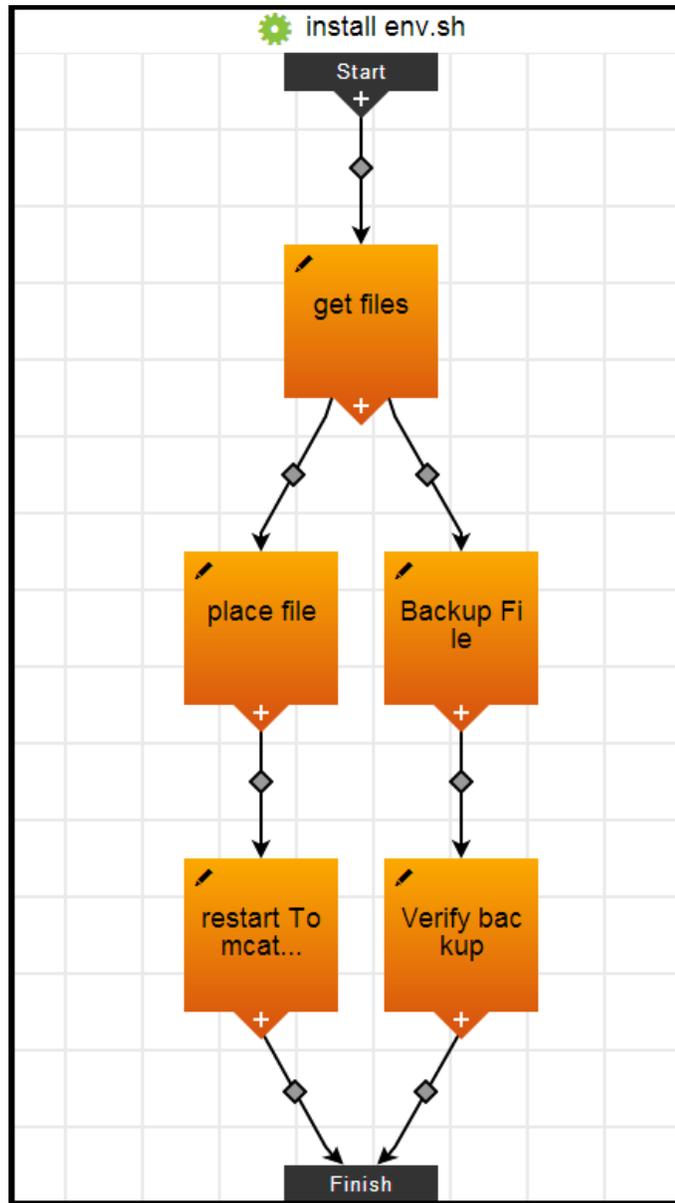
When you are near where you want to add the step in the process, notice that the icon changes shape and the text in it changes to "Dropping this Step in the Process."

4. Drop the step in the process.

The Component Process Step dialog box appears.

## 5. Design the step.

The new step is in the process.

**Related Topics:**

- [Designing Component Processes](#)
- [Designing Application Processes](#)
- [Designing Process Steps](#)

## Adding Credentials

**How to get here:** From the Component Process Step or the Application Process Step dialog box, click >.The Credentials dialog box opens.

You can attach one or more credentials to component process steps and application process steps.

You attach only one credential for impersonation on the following:

- Component process
- Component process step
- Application process
- Application process step

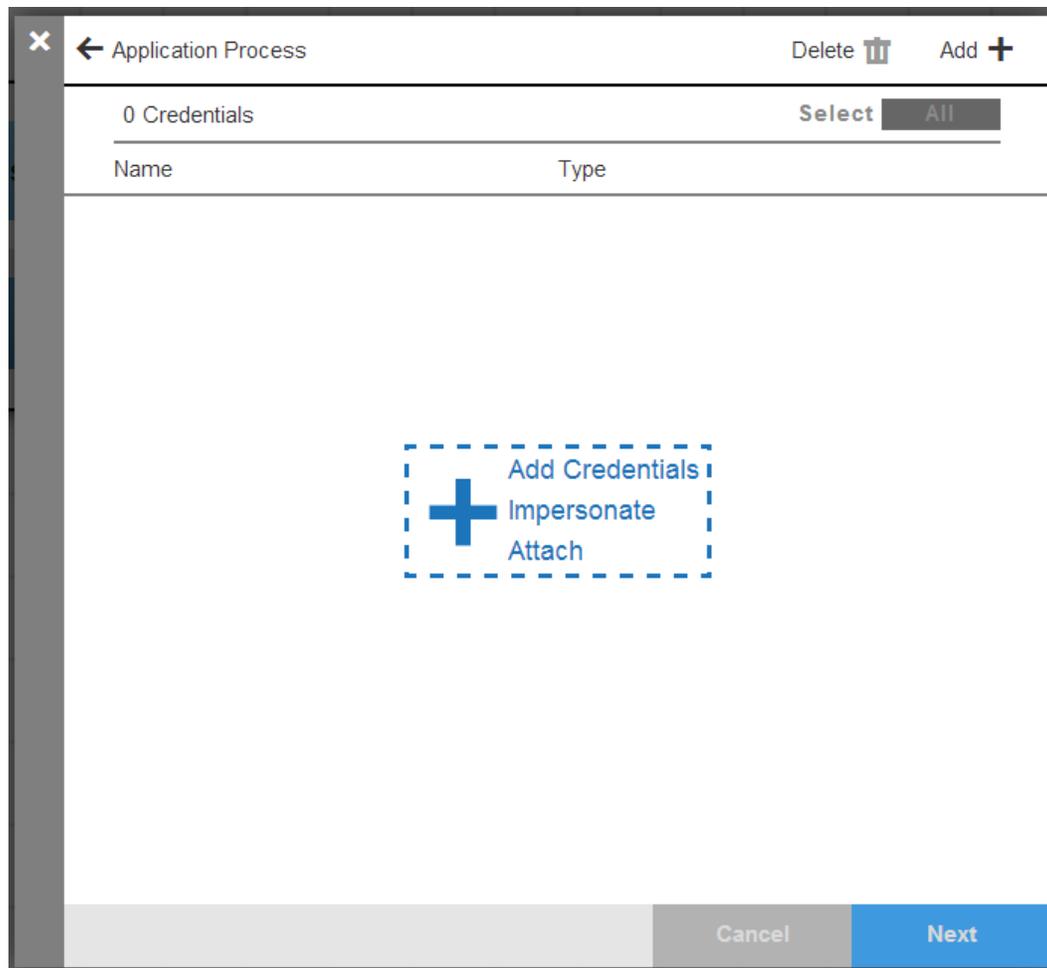
**IMPORTANT:**

When you impersonate a credential, make sure that the impersonated user has the absolute path to the bin directories in the \$PATH environment.

If you define a process step with a command, you must enter the absolute path in the **Post Processor** and **Shell** fields in the Define Step dialog box.

1. Click in the Add Credentials field.

Example:



2. To impersonate one credential, select **Impersonate** in the Type field.
3. Click the **Select Credential** field to open a drop-down list of credentials for the process step.
4. Select a credential.
5. Click **OK**.

The Credentials dialog box now shows the one credential for impersonation.

6. To attach one or more credential to the process step, select **Attach** in the Type field.
7. Click the **Select Credential** field to open a drop-down list of credentials for the process step.
8. Select a credential.
9. Click **OK**.

The Credentials dialog box now shows the attached credentials.

## Configuring Plugins

When you want to use a plugin to define your application or component process step, all of the supported plugins appear. However, you may want to see only the list of plugins that apply to your group or organization, such as Apache Subversion (SVN) and Git plugins.

To edit the list of plugins:

1. In the landing page, click the Settings icon and then click **Administration** to go to the ElectricCommander platform.

The ElectricCommander platform page opens.

2. Click **Plugins**.

The Plugin Manager appears.

The screenshot shows the ElectricCommander interface with the 'Administration' tab selected. A warning message states: "Standard license does not permit the use of external databases. No jobs may be launched until this is resolved. Either upgrade to an enterprise license or configure the server to use the 'built-in' database." Below this is the 'Plugin Manager' section, which includes tabs for 'Currently Installed', 'Install from File/URL', and 'View Catalog'. A table lists various plugins, including EC-ALM, EC-AgentManagement, EC-Ant, EC-Artifact, EC-CIManager, EC-CSH, EC-CheckStyle, EC-Clover\_CMD, EC-CoBERTura, EC-CodeScanner, EC-Core, EC-Coverity, EC-CppCheck, EC-CppNess, EC-DBI, EC-DefectTracking, EC-DefectTracking-ALM, EC-DefectTracking-Bugzilla, EC-DefectTracking-CQ, EC-DefectTracking-Fortress, EC-DefectTracking-JIRA, EC-DefectTracking-MKS, EC-DefectTracking-QC, EC-DefectTracking-RTC, EC-DefectTracking-Rally, EC-DefectTracking-TFS, and EC-DefectTracking-TeamForge. Each row includes a 'Demote' link in the Actions column.

Plugin Label	Author	Version	Category	Description	Actions
EC-ALM	Electric Cloud	1.0.5.65837 (promoted)	Test	Integrates HP-ALM Test server into Electric Commander	Demote   Configure   Help   Uninstall
EC-AgentManagement	Electric Cloud	1.0.1.69048 (promoted)	System	Centralized Agent Management procedures	Demote   Help   Uninstall
EC-Ant	Electric Cloud	2.0.7.65837 (promoted)	Build	Java build tool	Demote   Help   Uninstall
EC-Artifact	Electric Cloud	1.0.6.71780 (promoted)	System	Provides an interface for artifact version publish and retrieve operations	Demote   Uninstall
EC-CIManager	Electric Cloud	1.2.0.65837 (promoted)	System	Continuous Integration Manager	Demote   Configure   Help   Uninstall
EC-CSH	Electric Cloud	2.0.1.65837 (promoted)	Scripting/Shell	Integrates CSH Scripting Shell Tool into Electric Commander	Demote   Help   Uninstall
EC-CheckStyle	Electric Cloud	2.0.4.65837 (promoted)	Code Analysis	Integrates CheckStyle code coverage tools into Electric Commander	Demote   Help   Uninstall
EC-Clover_CMD	Electric Cloud	2.0.2.65837 (promoted)	Code Analysis	Integrates Clover command-line tools into Electric Commander	Demote   Help   Uninstall
EC-CoBERTura	Electric Cloud	2.0.5.65837 (promoted)	Code Analysis	Integrates CoBERTura code coverage tools into Electric Commander	Demote   Help   Uninstall
EC-CodeScanner	Electric Cloud	2.0.3.65837 (promoted)	Code Analysis	Integrates Carbide's CodeScanner static code analysis into Electric Commander	Demote   Help   Uninstall
EC-Core	Electric Cloud	1.2.3.71741 (promoted)	System	Electric Cloud Plugin Core	Demote   Uninstall
EC-Coverity	Electric Cloud	1.0.1.65837 (promoted)	Code Analysis	Integrates Coverity code analysis tools into Electric Commander	Demote   Help   Uninstall
EC-CppCheck	Electric Cloud	2.0.3.65837 (promoted)	Code Analysis	Integrates CppCheck static code analysis into Electric Commander	Demote   Help   Uninstall
EC-CppNess	Electric Cloud	2.0.3.65837 (promoted)	Code Analysis	Integrates CppNess static code analysis into Electric Commander	Demote   Help   Uninstall
EC-DBI	Electric Cloud	2.0.0.65837 (promoted)	Database	Integration for the Perl DBI / DBD interface	Demote   Configure   Help   Uninstall
EC-DefectTracking	Electric Cloud	1.1.7.65837 (promoted)	Defect Tracking	Base plugin for all Defect Tracking plugins	Demote   Uninstall
EC-DefectTracking-ALM	Electric Cloud	1.0.4.65837 (promoted)	Defect Tracking	ALM plugin	Demote   Help   Uninstall
EC-DefectTracking-Bugzilla	Electric Cloud	2.0.6.65837 (promoted)	Defect Tracking	Bugzilla plugin	Demote   Help   Uninstall
EC-DefectTracking-CQ	Electric Cloud	2.0.4.65837 (promoted)	Defect Tracking	ClearQuest plugin	Demote   Help   Uninstall
EC-DefectTracking-Fortress	Electric Cloud	2.0.5.65837 (promoted)	Defect Tracking	Fortress plugin	Demote   Help   Uninstall
EC-DefectTracking-JIRA	Electric Cloud	2.1.0.65837 (promoted)	Defect Tracking	JIRA plugin	Demote   Help   Uninstall
EC-DefectTracking-MKS	Electric Cloud	2.0.2.65837 (promoted)	Defect Tracking	MKS plugin	Demote   Help   Uninstall
EC-DefectTracking-QC	Electric Cloud	2.0.8.65837 (promoted)	Defect Tracking	QC plugin	Demote   Help   Uninstall
EC-DefectTracking-RTC	Electric Cloud	2.1.0.65837 (promoted)	Defect Tracking	Rational Team Concert plugin	Demote   Help   Uninstall
EC-DefectTracking-Rally	Electric Cloud	2.0.4.65837 (promoted)	Defect Tracking	Rally plugin	Demote   Help   Uninstall
EC-DefectTracking-TFS	Electric Cloud	2.0.6.65837 (promoted)	Defect Tracking	TFS plugin	Demote   Help   Uninstall
EC-DefectTracking-TeamForge	Electric Cloud	2.0.6.65837 (promoted)	Defect Tracking	TeamForge plugin	Demote   Help   Uninstall

3. Select a plugin in the list.

4. In the Actions column for the selected plugin, click **Demote**. The page refreshes and the plugin no longer appears on it.

The next time that you define a step with a plugin, only the plugins for your group or organization appear.

## Component and Application Process Steps: ectool Example

This is sample code showing how to design component and application process steps using the ectool API.

```
#!/bin/bash

# set all names
hostname='localhost'
projectName='default'
appName='myApp'
envName='myEnv'
appTierName='myAppTier'
componentName='myComponent'
artifactName='DEV:MyArt001'
envTierName='myEnvTier'
artifactProjectName='EC-Artifact-1.0.9.76076'
subProject_artifact='/plugins/EC-Artifact/project'
appProcessName='myApp_process'
appProcessStepName='myApp_process_step'
compProcessName='myComp_process'
compProcessStepName='myComp_process_step'
resource1='res_1'
resource2='res_2'
resource3='res_3'
resource4='res_4'

# login
ectool --server $hostname login admin changeme

# make sure same application, artifacts, resources don't already exist
echo 'make sure same application, artifacts, resources do not already exist'
ectool deleteApplication --projectName $projectName --applicationName $appName
ectool deleteEnvironment --projectName $projectName --environmentName $envName
ectool deleteArtifact --artifactName $artifactName
ectool deleteResource --resourceName $resource1
ectool deleteResource --resourceName $resource2
ectool deleteResource --resourceName $resource3
ectool deleteResource --resourceName $resource4
```

```
# create application
echo 'creating application'
ectool createApplication --projectName $projectName --applicationName $appName

#create application tier
echo 'creating application tier'
ectool createApplicationTier --projectName $projectName --applicationName $appName --applicationTierName $appTierName

#create and publish artifact versions
ectool createArtifact --groupId 'DEV' --artifactKey 'MyArt001'
ectool publishArtifactVersion --artifactName $artifactName --version '1.0' --fromDirectory 'tmp/partial_deployment' --includePatterns "abc1.war"
ectool publishArtifactVersion --artifactName $artifactName --version '2.0' --fromDirectory 'tmp/partial_deployment' --includePatterns "abc2.war"

#create component and add it to app tier
ectool createComponent --projectName $projectName --applicationName $appName --componentName $componentName --pluginName $artifactProjectName
ectool addComponentToApplicationTier --projectName $projectName --applicationName $appName --applicationTierName $appTierName --componentName $componentName

#Set component properties
ectool createProperty --projectName $projectName --applicationName $appName --componentName $componentName --propertyName 'ec_content_details' --propertyType 'sheet'
ectool createProperty --projectName $projectName --applicationName $appName --componentName $componentName --propertyName 'ec_content_details/artifactName' --value $artifactName
ectool createProperty --projectName $projectName --applicationName $appName --componentName $componentName --propertyName 'ec_content_details/versionRange' --value '1.0'
ectool createProperty --projectName $projectName --applicationName $appName --componentName $componentName --propertyName 'ec_content_details/artifactVersionLocationProperty' --value '/myJob/retrievedArtifactVersions/${assignedResourceName}'
ectool createProperty --projectName $projectName --applicationName $appName --componentName $componentName --propertyName 'ec_content_details/overwrite' --value 'update'
ectool createProperty --projectName $projectName --applicationName $appName --componentName $componentName --propertyName 'ec_content_details/filterList' --value ''
ectool createProperty --projectName $projectName --applicationName $appName --componentName $componentName --propertyName 'ec_content_details/pluginProcedure' --value 'Retrieve'
```

```

ectool createProperty --projectName $projectName --applicationName $appName --componentName $componentName --propertyName 'ec_content_details/pluginProjectName' --value 'EC-Artifact'

ectool createProperty --projectName $projectName --applicationName $appName --componentName $componentName --propertyName 'ec_ui' --propertyType 'sheet'

ectool createProperty --projectName $projectName --applicationName $appName --componentName $componentName --propertyName 'ec_ui/stepType' --value 'operation'

#create component process and step

ectool createProcess --projectName $projectName --processName $compProcessName --componentApplicationName $appName --processType 'DEPLOY' --componentName $componentName

ectool createProcessStep --projectName $projectName --processName $compProcessName --processStepName $compProcessStepName --componentName $componentName --componentApplicationName $appName --subprocedure 'Retrieve' --subproject $subProject_artifact --processStepType 'component' --includeCompParameterRef 1

#create environment, tiers and add resources

ectool createEnvironment --projectName $projectName --environmentName $envName --environmentEnabled 'true'

ectool createEnvironmentTier --projectName $projectName --environmentName $envName --environmentTierName $envTierName

ectool createResource --resourceName $resource1 --hostName $hostname --pools $projectName
ectool createResource --resourceName $resource2 --hostName $hostname --pools $projectName
ectool createResource --resourceName $resource3 --hostName $hostname --pools $projectName
ectool createResource --resourceName $resource4 --hostName $hostname --pools $projectName

ectool addResourceToEnvironmentTier --resourceName $resource1 --projectName $projectName --environmentName $envName --environmentTierName $envTierName

ectool addResourceToEnvironmentTier --resourceName $resource2 --projectName $projectName --environmentName $envName --environmentTierName $envTierName

ectool addResourceToEnvironmentTier --resourceName $resource3 --projectName $projectName --environmentName $envName --environmentTierName $envTierName

ectool addResourceToEnvironmentTier --resourceName $resource4 --projectName $projectName --environmentName $envName --environmentTierName $envTierName

# create application process and steps

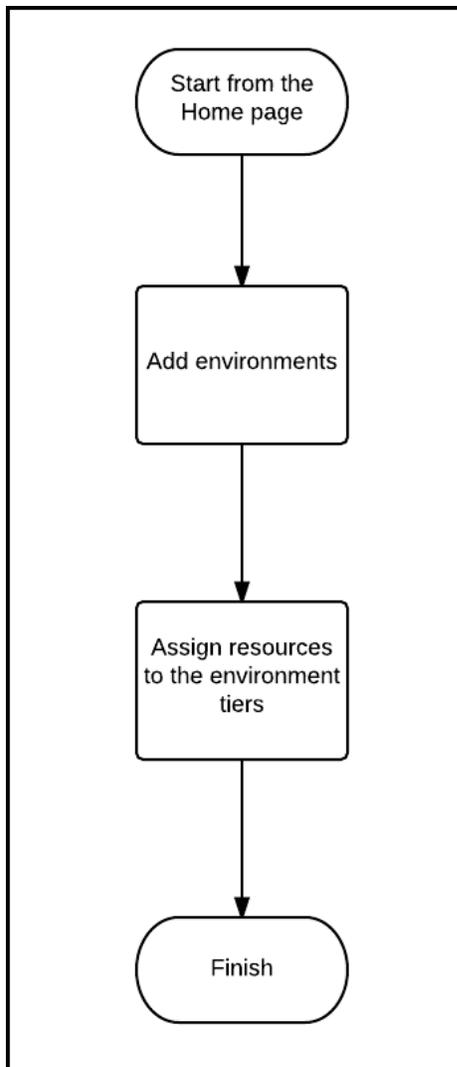
ectool createProcess --projectName $projectName --processName $appProcessName --applicationName $appName

ectool createProcessStep --projectName $projectName --processName $appProcessName --processStepName $appProcessStepName --errorHandling 'abortJob' --subcomponent $componentName --subcomponentApplicationName $appName --subcomponentProcess $compProcessName --applicationName $appName --applicationTierName $appTierName --processStepType 'process'

```

```
# create tier mapping  
ectool createTierMap --projectName $projectName --applicationName $appName --environmentP  
rojectName $projectName --environmentName $envName --tierMapName 'map1' --tierMapping "$a  
ppTierName=$envTierName"
```

## Designing Environments



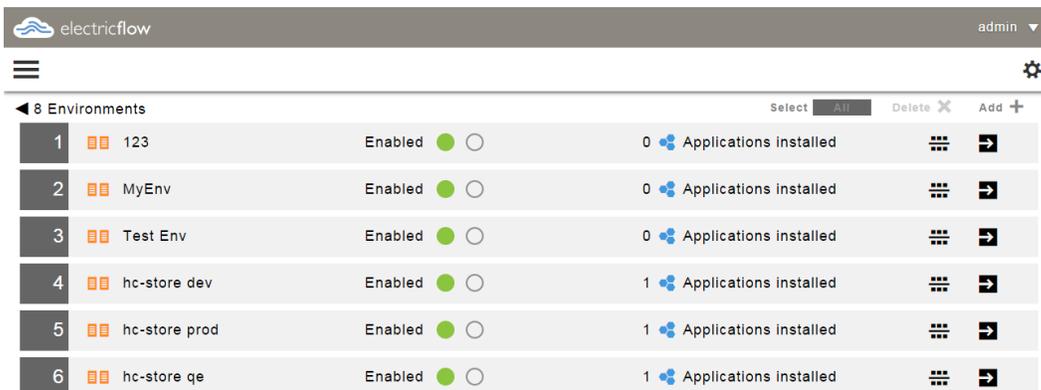
1. Add an environment.
2. Assign resources to environment tiers.

### Adding an Environment

Starting from the Home page:

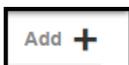
1. Go to the Environments List.

Example:



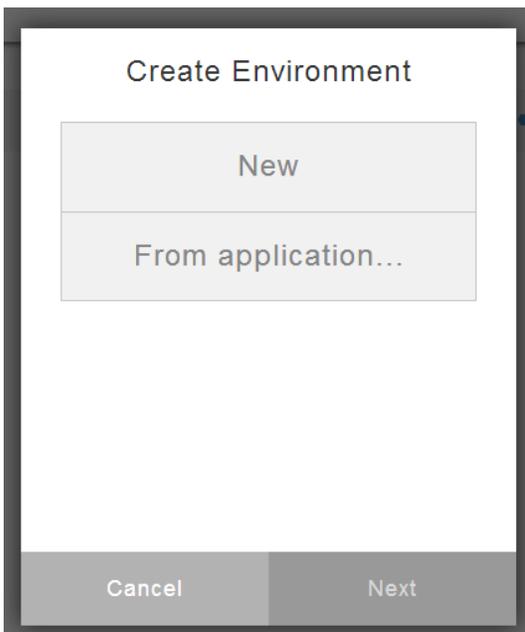
2. Click the "Add environment" icon in the upper right corner.

Example:



The Create Environment appears.

Example:

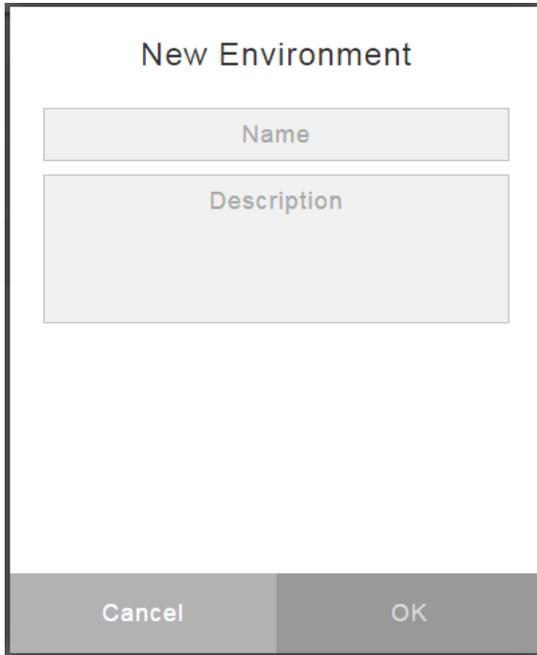


3. Click **New** or **From application**, and go to the appropriate next step.

4. Click **New** and then **Next** to add a new environment.

The New Environment dialog box opens.

Example:



The image shows a dialog box titled "New Environment". It contains two input fields: a "Name" field and a "Description" field. The "Name" field is a single-line text box, and the "Description" field is a larger multi-line text box. At the bottom of the dialog box, there are two buttons: "Cancel" on the left and "OK" on the right.

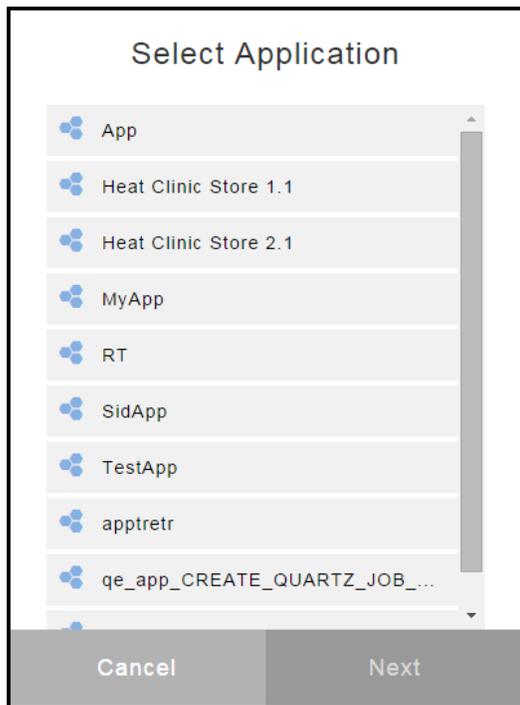
- a. Enter a name in the Name field.
- b. (Optional) Enter a description of the application in the Description field.
- c. Click **OK**.

5. Click **From application** and then **Next** to add an environment that will have the same number of tiers with the same names as the application you will select.

The Select Application dialog box opens. In the example, the Heat Clinic Store 1.1 application has three tiers:

- Apache Web
- MySQL
- Tomcat

Example:



- a. Choose an application and then click **Next**.

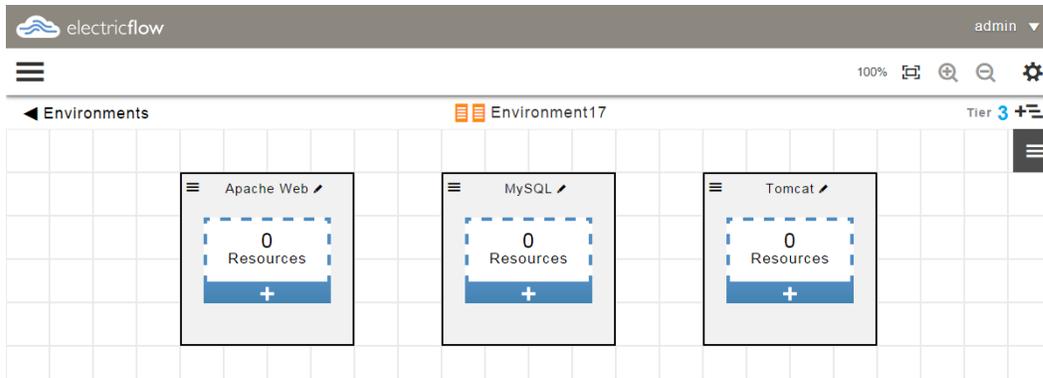
The New Environment dialog box opens.

- b. Enter a name in the Name field. It must not match the name of another application in the project.
- c. (Optional) Enter a description of the application in the Description field.
- d. Click **OK**.

The new environment has these three tiers:

- Apache Web
- MySQL
- Tomcat

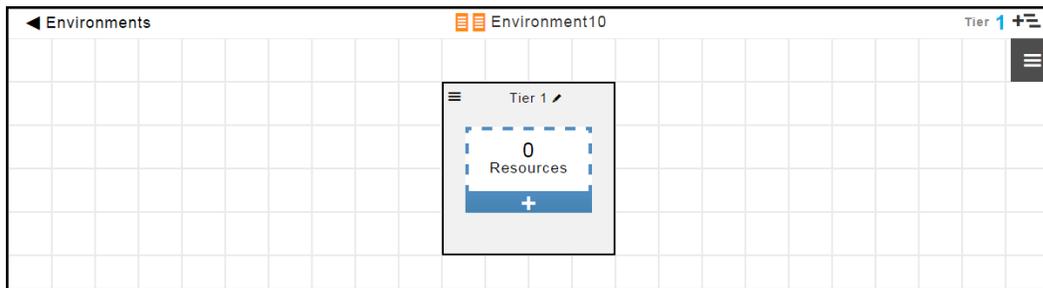
Example:



## Assigning Resources to Environment Tiers

If you are designing a new environment, the Environments Designer has an application tier called Tier 1 with no resources.

Example:



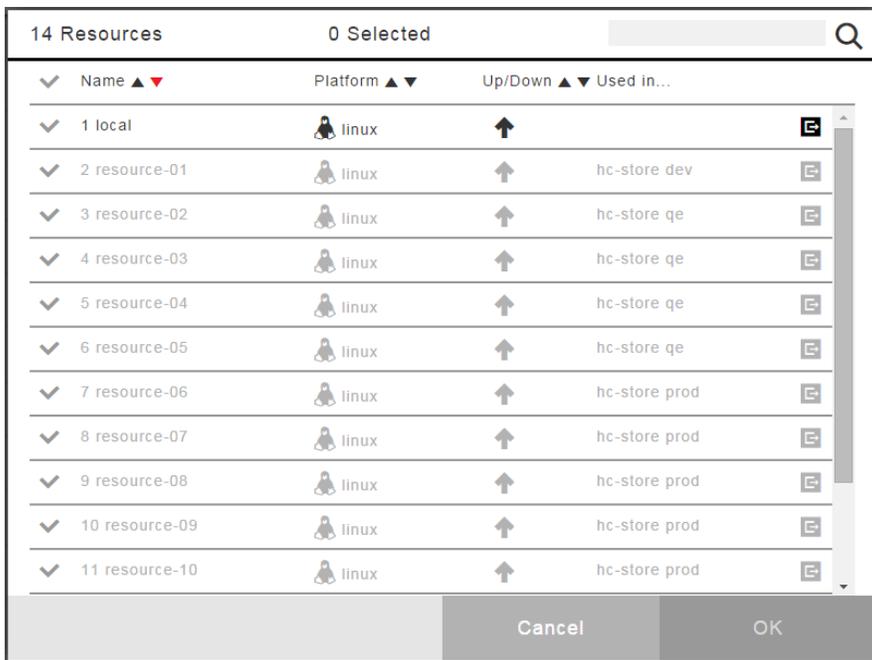
Starting in the Environments Designer:

1. Click the plus sign (+) in the new environment tier.

The Resources List opens.

In the example, there are 14 resources allocated to your system. You can select a resource that is not used in an environment. Resources that are already used in environments are dimmed, and you cannot select them.

Example:



2. Choose an available resource and click **OK**.

The Environments Designer now shows that one resource is assigned to the tier.

In the example, one resource is assigned to Tier 1.

Example:



3. Click the "Add Resource" icon in the tier to add another resource to it.

Example:



The Resource List opens.

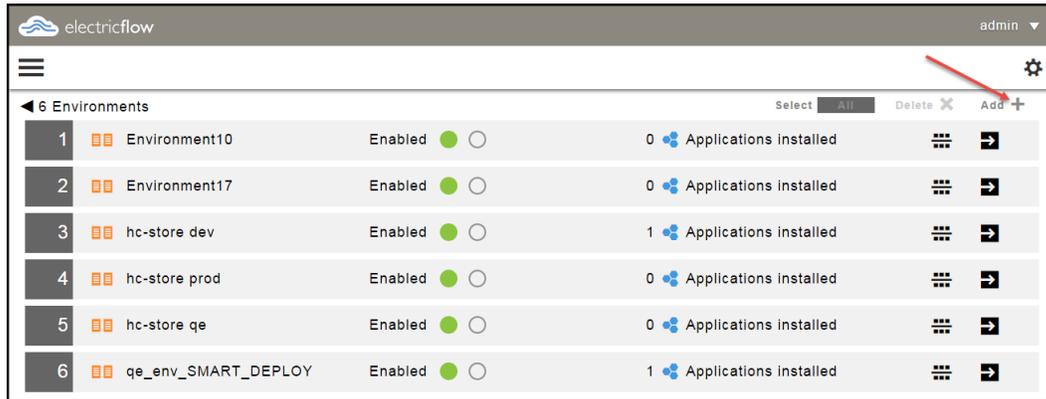
4. Repeat the previous steps to assign a resource to the environment tier.

## Adding an Environment

Starting from the Home page:

1. Go to the Environments List.

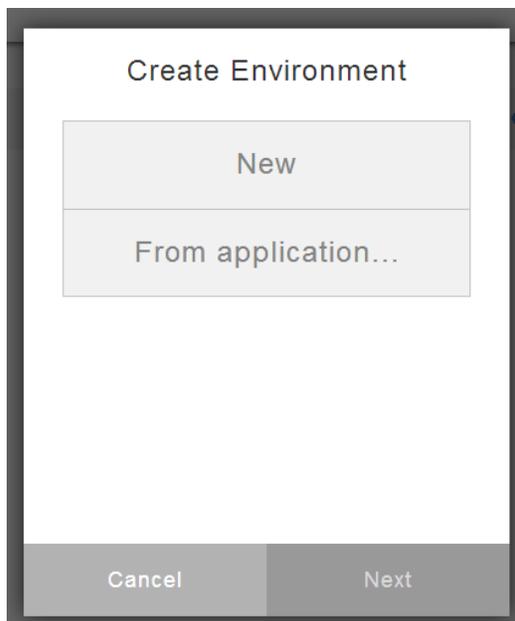
Example:



2. Click the plus sign (+) in the upper right corner (see the example in the previous step).

The Create Environment appears.

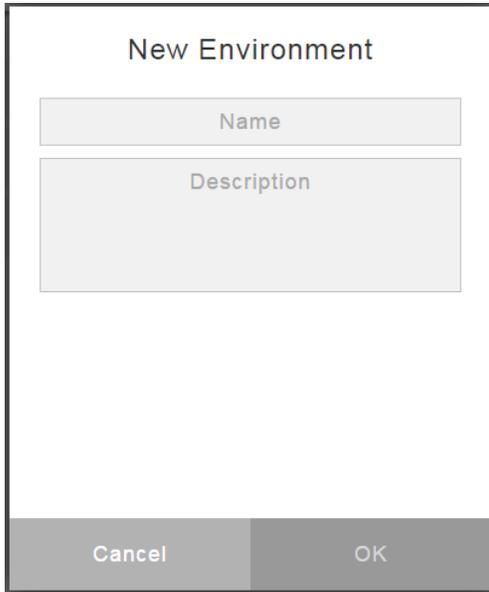
Example:



3. Click **New** and then **Next** to add a new environment.

The New Environment dialog box opens.

Example:



The image shows a dialog box titled "New Environment". It contains two input fields: a "Name" field and a "Description" field. The "Name" field is a single-line text box, and the "Description" field is a larger multi-line text box. At the bottom of the dialog box, there are two buttons: "Cancel" and "OK".

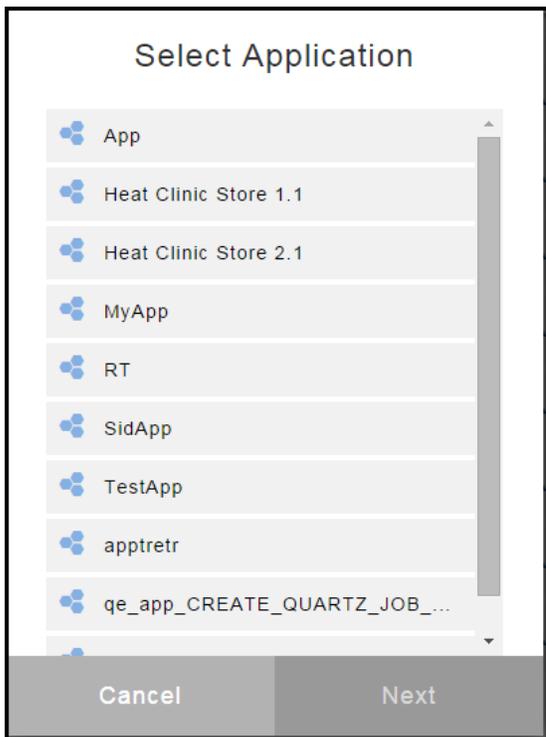
- a. Enter a name in the Name field.
- b. (Optional) Enter a description of the application in the Description field.
- c. Click **OK**.

4. Click **From application** and then **Next** to add an environment that will have the same number of tiers with the same names as the application you will select.

The Select Application dialog box opens. In the example, the Heat Clinic Store 1.1 application has three tiers:

- Apache Web
- MySQL
- Tomcat

Example:



- a. Choose an application and then click **Next**.

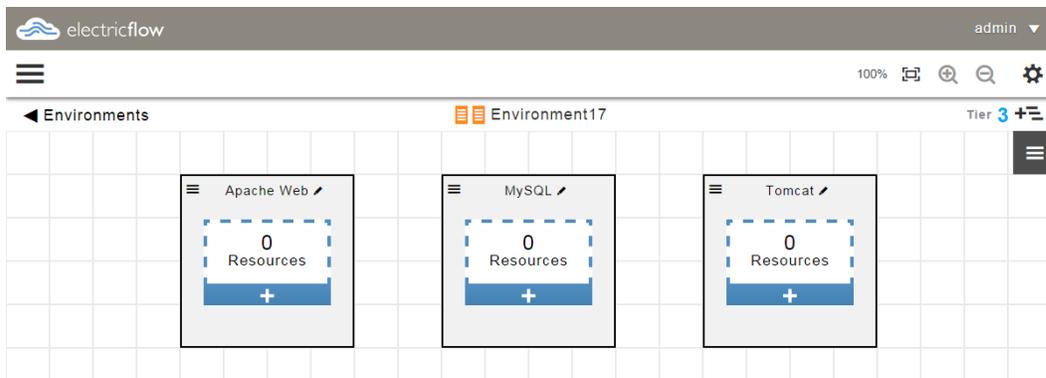
The New Environment dialog box opens.

- b. Enter a name in the Name field. It must not match the name of another application in the project.
- c. (Optional) Enter a description of the application in the Description field.
- d. Click **OK**.

For example, If you select Heat Clinic Store 1.1, the new environment has these three tiers:

- Apache Web
- MySQL
- Tomcat

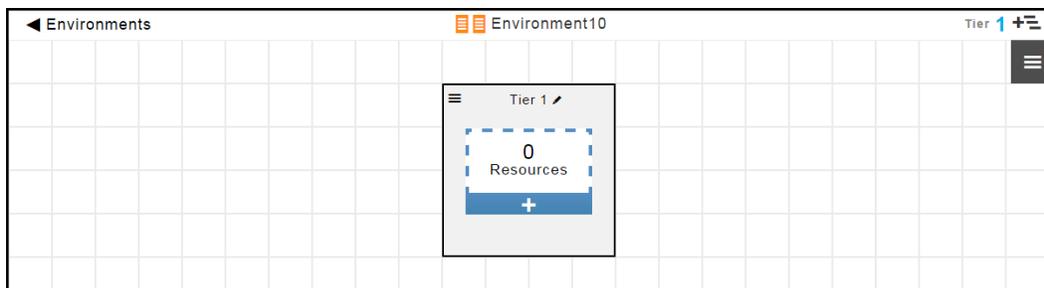
Example:



## Assigning Resources to Environment Tiers

If you are designing a new environment, the Environments Designer has an application tier called Tier 1 with no resources.

Example:



Starting in the Environments Designer:

1. Click the plus sign (+) in the new environment tier.

The Resources List opens.

In the example, there are 14 resources allocated to your system. You can select a resource that is not used in an environment. Resources that are already used in environments are dimmed, and you cannot select them.

Example:

14 Resources		0 Selected		
✓ Name ▲▼	Platform ▲▼	Up/Down ▲▼	Used in...	
✓ 1 local	linux	↑		🔍
✓ 2 resource-01	linux	↑	hc-store dev	🔍
✓ 3 resource-02	linux	↑	hc-store qe	🔍
✓ 4 resource-03	linux	↑	hc-store qe	🔍
✓ 5 resource-04	linux	↑	hc-store qe	🔍
✓ 6 resource-05	linux	↑	hc-store qe	🔍
✓ 7 resource-06	linux	↑	hc-store prod	🔍
✓ 8 resource-07	linux	↑	hc-store prod	🔍
✓ 9 resource-08	linux	↑	hc-store prod	🔍
✓ 10 resource-09	linux	↑	hc-store prod	🔍
✓ 11 resource-10	linux	↑	hc-store prod	🔍

Cancel OK

2. Select an available resource and click **OK**.

The Environments Designer now shows that one resource is assigned to the tier.

In the example, one resource is assigned to Tier 1.

Example:

← Environments	Environment10	Tier 1 +
<div style="border: 1px solid gray; padding: 10px; width: fit-content; margin: 0 auto;"><p>Tier 1 ✎</p><div style="background-color: #007bff; color: white; padding: 5px; text-align: center; width: 50px; margin: 0 auto;"><p>1 Resources</p></div><p>+ 📄</p></div>		

3. Click the "Add Resource" icon in the tier to add another resource to it. See the previous icon.

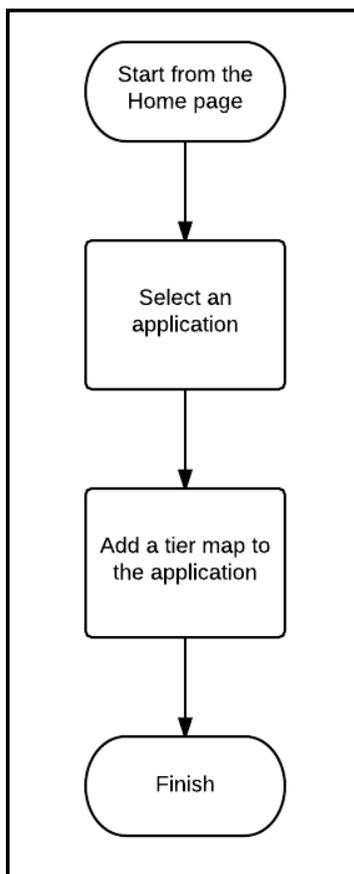
Example:



The Resource List opens.

4. Repeat the previous steps to assign a resource to the environment tier.

## Making Tier Maps



Starting in the Home page:

1. Go to the Applications List.
2. Select the application that you want to run.  
The Applications Designer opens.
3. Click the " Add tier map" icon in the upper right corner.

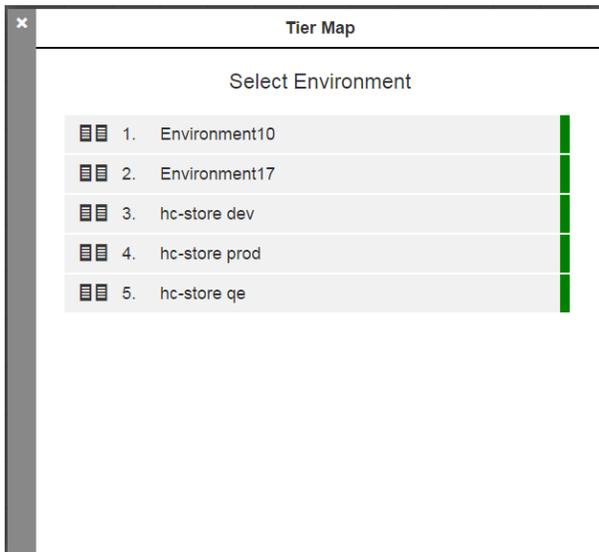
Example:



The Tier Map dialog box opens.

4. Select an environment to which you want to map the application.

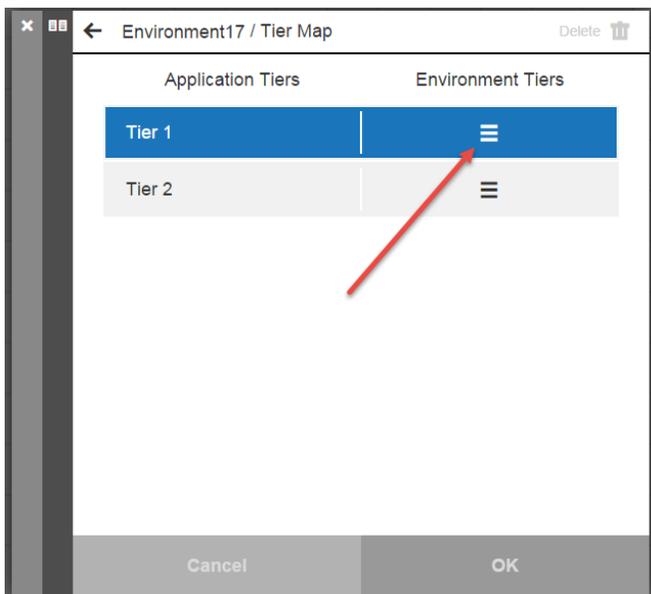
Example:



The <Environment Name>/Tier Map dialog box opens.

In this example, Environment17 is selected.

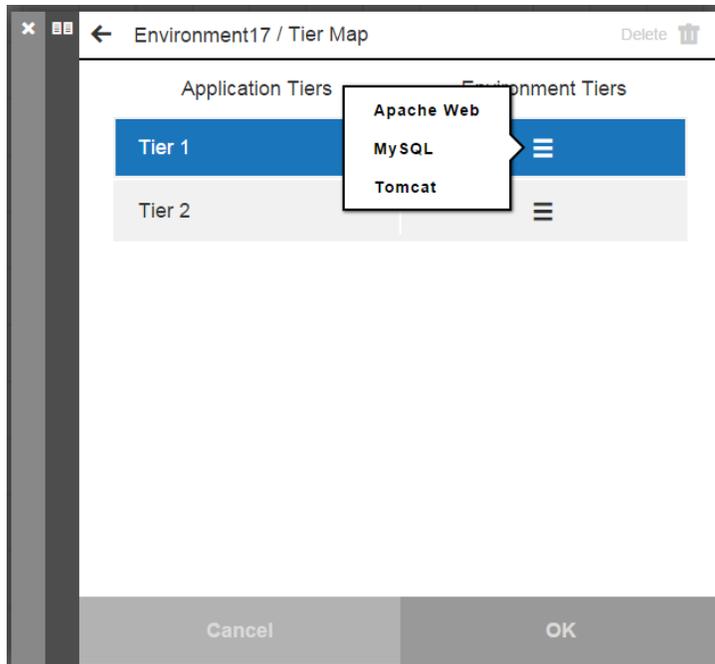
Example:



5. Choose an application tier, and click on the icon in the Environment Tiers column.

A list of environment tiers in the environment that you selected appears.

Example:

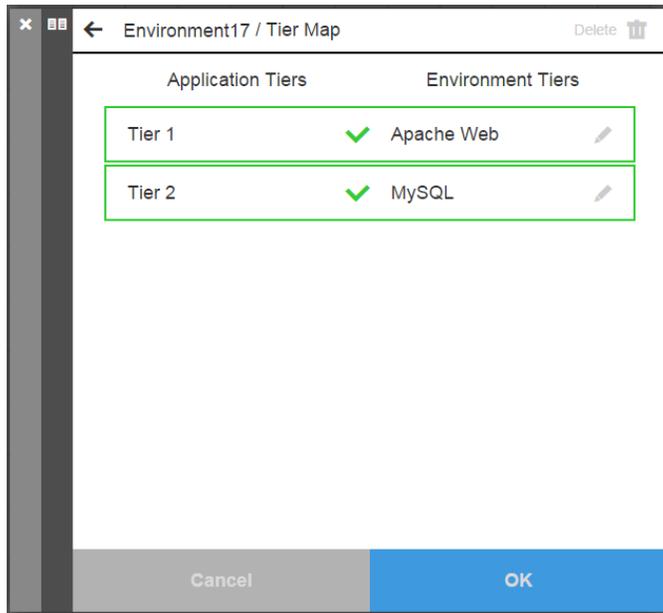


6. Select one of the tiers.
7. If an application has more than one tier, repeat the previous steps to map an application tier to an environment tier.

8. After you map all the application tiers to environment tiers, click **OK**.

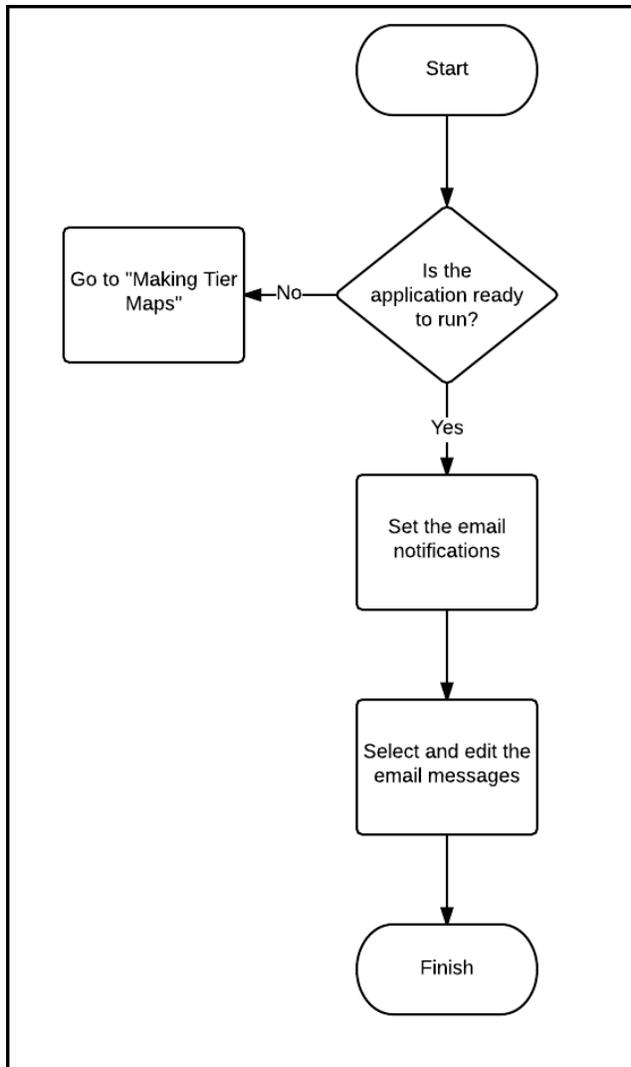
In the example, application Tier 1 is mapped to the Apache Web tier, and application Tier 2 is mapped to the MySQL tier.

Example:



To verify that the application is ready to run, go to the Applications List. When the Run Process button is green, you can run the application when you are ready.

## Preparing to Run Applications



1. To verify that the application is ready to run, go to the Applications List.
2. Set the email notifications.
3. Select and edit the email message.

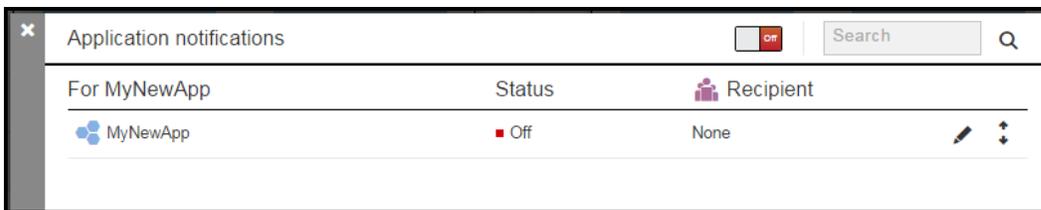
**Related Topics:**

- [Setting Email Notifications](#)
- [Selecting and Editing Email Messages](#)

## Setting Email Notifications

**Review these guidelines before setting notifications:**

New email notifications are disabled in the application, its application processes, and the process steps before you configure them.



You configure notifications in the "Application notifications / edit wizard."

**IMPORTANT:** The first time that you set notifications in this wizard, the Notifications toggle changes to **On**. After you enter notification settings and click **OK**, email notifications are enabled at that level.

Go to the "[Application Notifications Wizard](#)" section for information about how to use the "Application notifications" and "Application notifications /edit" wizards.

By default, the application expects that the user creates an email configuration called "default." The email configuration defaults to the server property `/server/ec_deploy/ec_defaultEmailConfiguration`, which is set to 'default'.

If you want to use a different name for the email configuration, change the value of `/server/ec_deploy/ec_defaultEmailConfiguration` to the new email configuration name.

Starting from the Home page, to set email notifications:

1. Go to the Applications List.

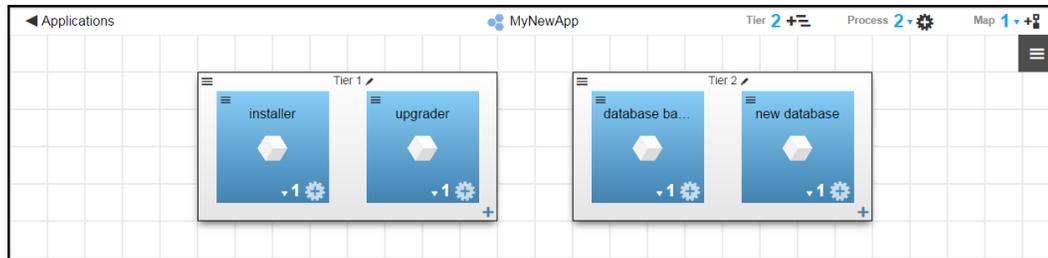
Example:



2. Select an application.

The Applications Designer opens.

Example:



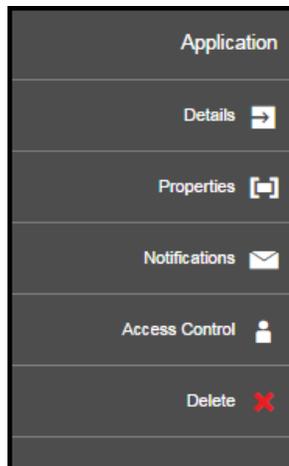
3. Click the Applications menu icon.

Example:



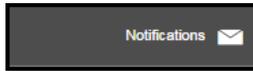
The Applications menu opens.

Example:



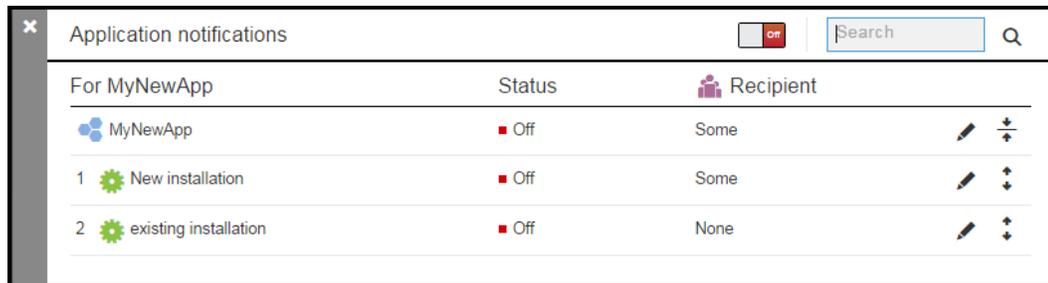
4. Click **Notifications** to add a new application.

Example:



The Application notification wizard opens.

Example:



For MyNewApp		Status	Recipient	
MyNewApp		Off	Some	 
1	 New installation	Off	Some	 
2	 existing installation	Off	None	 

5. Configure email notifications for the application, an application process, or a process step.

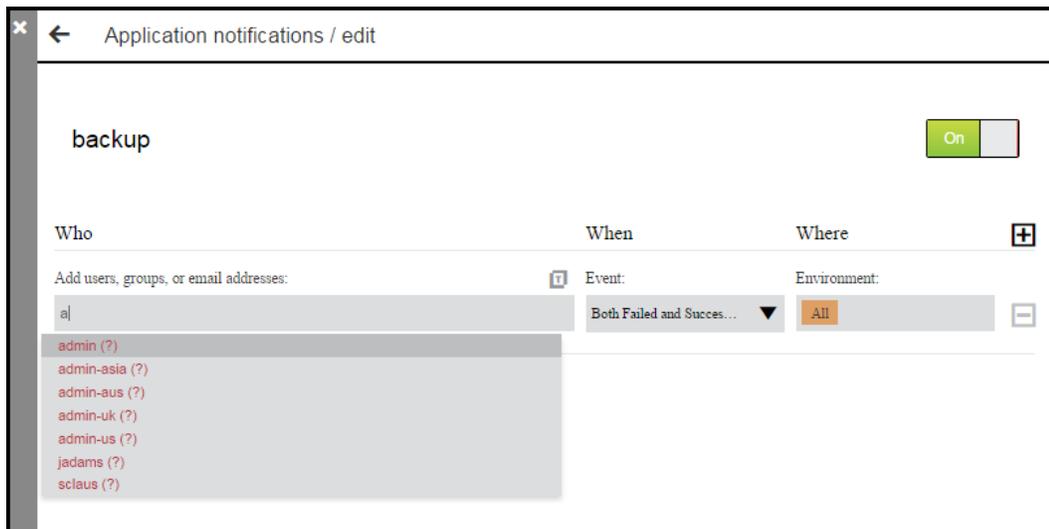
You can configure one or more notifications in an application process or other object.

### Configuring recipients

In the **Who** field, you add users or groups who are configured and managed in the ElectricCommander platform or email addresses.

When you start typing a user name, group name, or email addresses, a list of names or email addresses appear that match what you are typing.

Example:



Application notifications / edit

backup On

Who When Where +

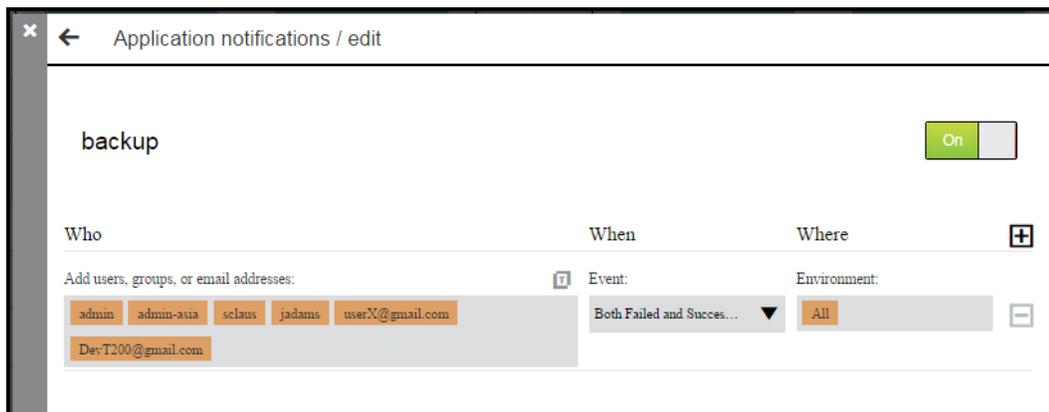
Add users, groups, or email addresses: + Event: Both Failed and Success... Environment: All -

a|

- admin (?)
- admin-asia (?)
- admin-aus (?)
- admin-uk (?)
- admin-us (?)
- jadams (?)
- sclaus (?)

If one of the suggestions matches the name or email address, select it, or continue typing. You can add more than one name or email address.

Example:



Application notifications / edit

backup On

Who When Where +

Add users, groups, or email addresses: + Event: Both Failed and Success... Environment: All -

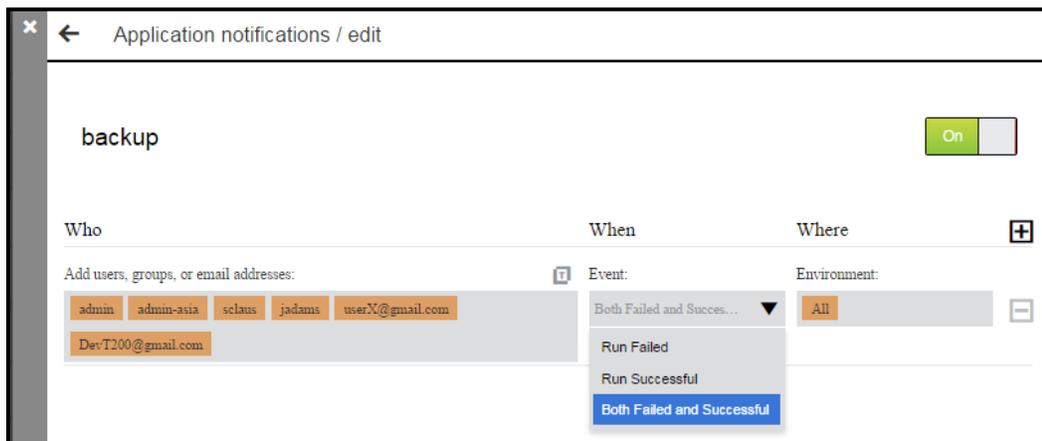
admin admin-asia sclaus jadams userX@gmail.com

Dev:T200@gmail.com

### Configuring the event that triggers the notification

In the **When** field, you select the event that triggers a notification to be sent to the recipients in the **Who** field. The default is **Both Failed and Successful**. Click in the **When** field to select the event for the notification.

Example:



### Configuring the environments where the notification applies

In the **Where** field, you select the environments to which the notifications apply. Click in the **Where** field to select the environments, which are the environments to which the application is mapped in the tier map.

Example:



- 6. Select and edit the email notification message.

7. Add another notification for the the application, an application process, or a process step.

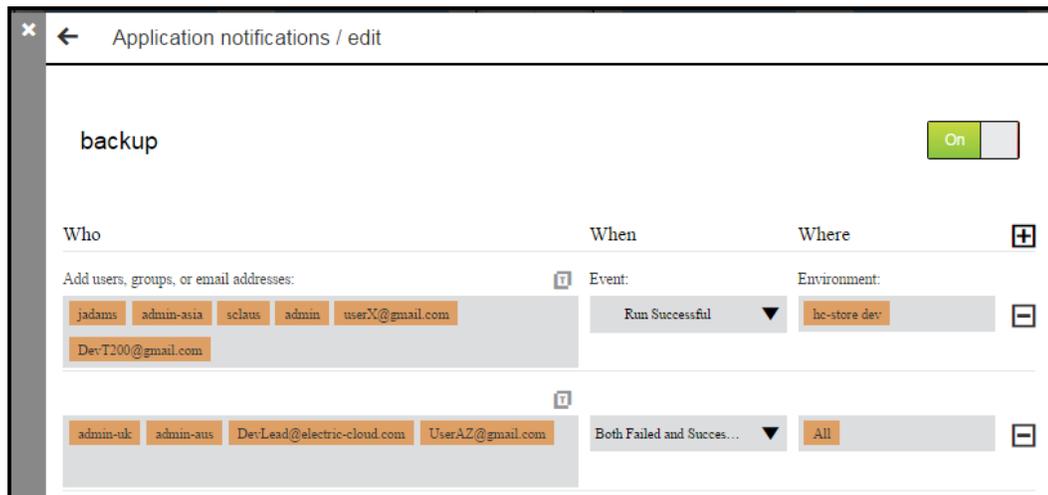
Click the Add Notifications icon to add a new notification.

Example:



After you have added your email notifications, click **OK** to save the settings and return to the Application notifications wizard.

Example:



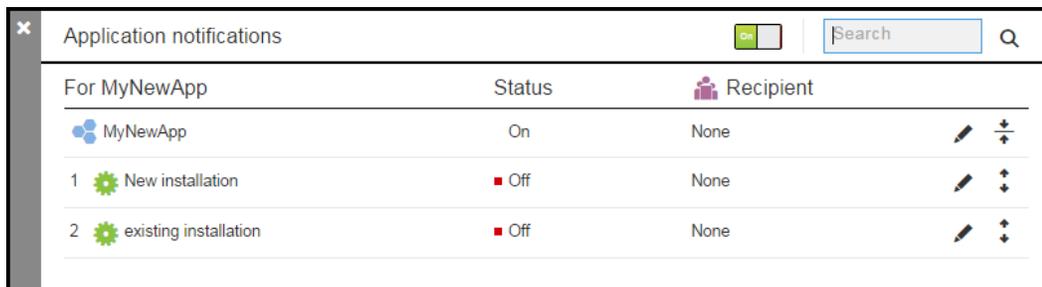
- 8. (Optional) Enable email notifications for the application, application processes, or process steps that are not already enabled.

To enable email notifications at the application level:

- Click the Notifications toggle and change it to **On**.

The status of the application changes to **On**.

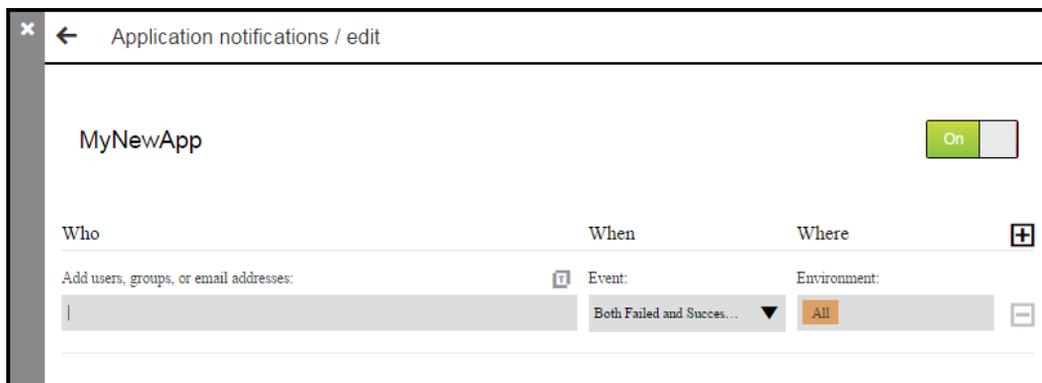
Example:



- Click the edit icon to open the "Application notifications / edit" wizard.

The Application notifications / edit wizard appears. The Notification toggle changes to **On**.

Example:



To enable notifications at the application process and process step levels, go to the "Application Notifications / edit" wizard for the specific process or process step.

The wizard opens, and the Notifications toggle is now **On**.

Example:

When you enter notification settings in the wizard and click **OK**, the settings are saved. The Application notifications wizard appears and now shows that the application process status is **On**.

Example:

For MyNewApp	Status	Recipient
MyNewApp	On	Some
1 New installation	On	Some
2 existing installation	Off	None

## Selecting and Editing Email Messages

Starting in the "Application notifications / edit" wizard:

1. Click the email message template icon.

A drop-down box opens.

Example:

Application notifications / edit

backup On

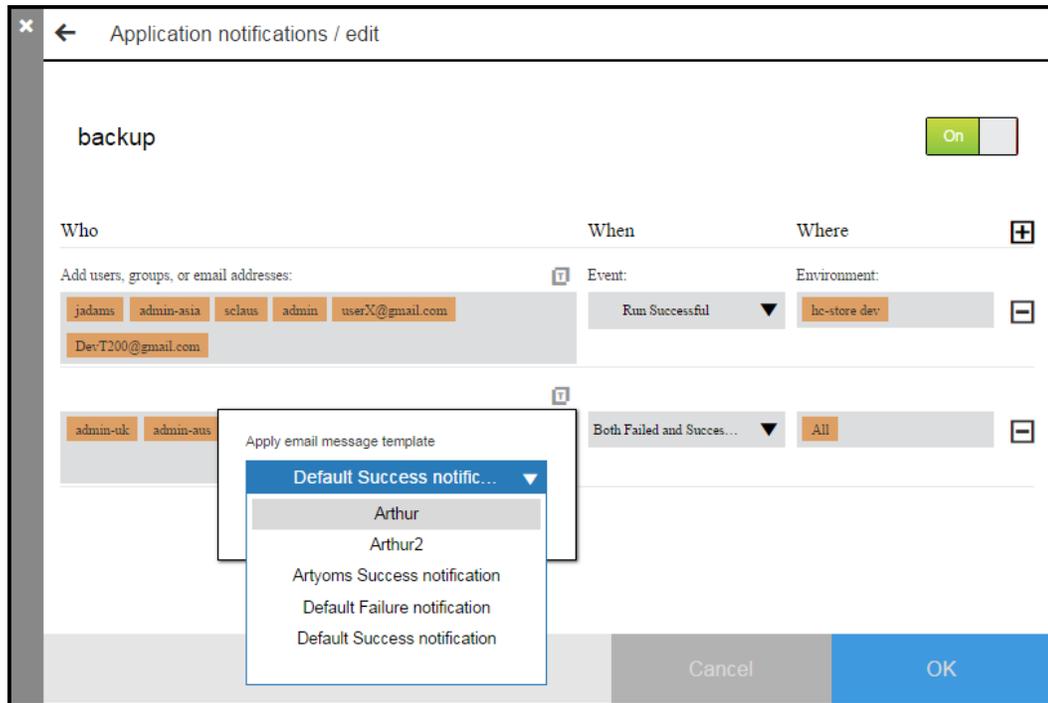
Who	When	Where	
Add users, groups, or email addresses: jadams admin-asia sclaus admin userX@gmail.com Dev.T200@gmail.com	Event: Run Successful ▼	Environment: hc-store dev	+
admin-uk admin-aus Apply email message template Default Success notific... ▼	Both Failed and Succes... ▼	All	-

Cancel OK

2. Click the down arrow to open the list of email message templates that can apply to the application.

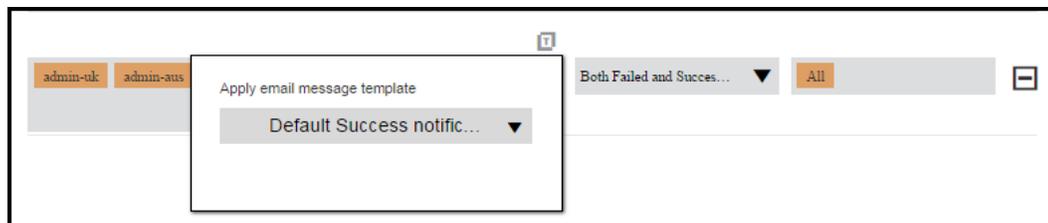
3. Select a template.

Example:



If the template is the current template applied to notification, the name of the template appears in dialog box.

Example:



If the template is not the current template, the **Apply** and **Edit** buttons appear in the dialog box.

Example:



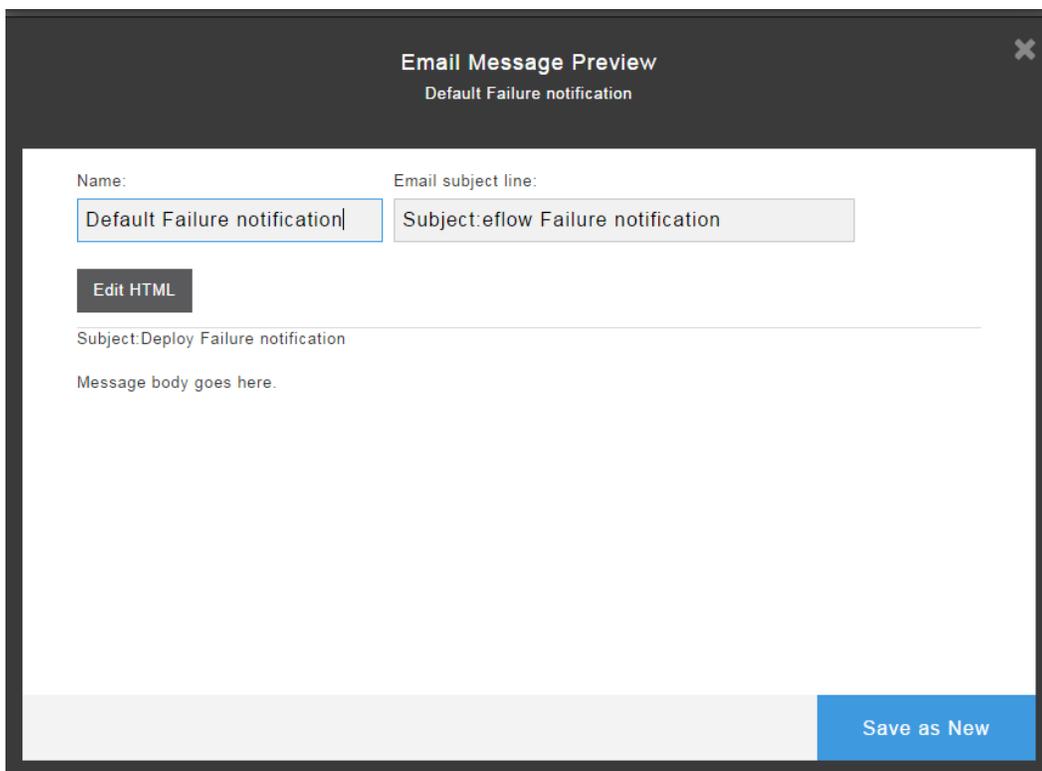
4. If you want to use the template that you selected instead of the current one and do not want to change it, skip the remaining steps in this task.
5. If you want to apply a different template or edit the template that you selected, do the remaining steps in this task.

If you click **Apply** to use the template as is, skip the remaining steps.

If you click **Edit** to modify the template to fit your needs, go to the next step.

The Email Message Preview dialog box appears.

Example:



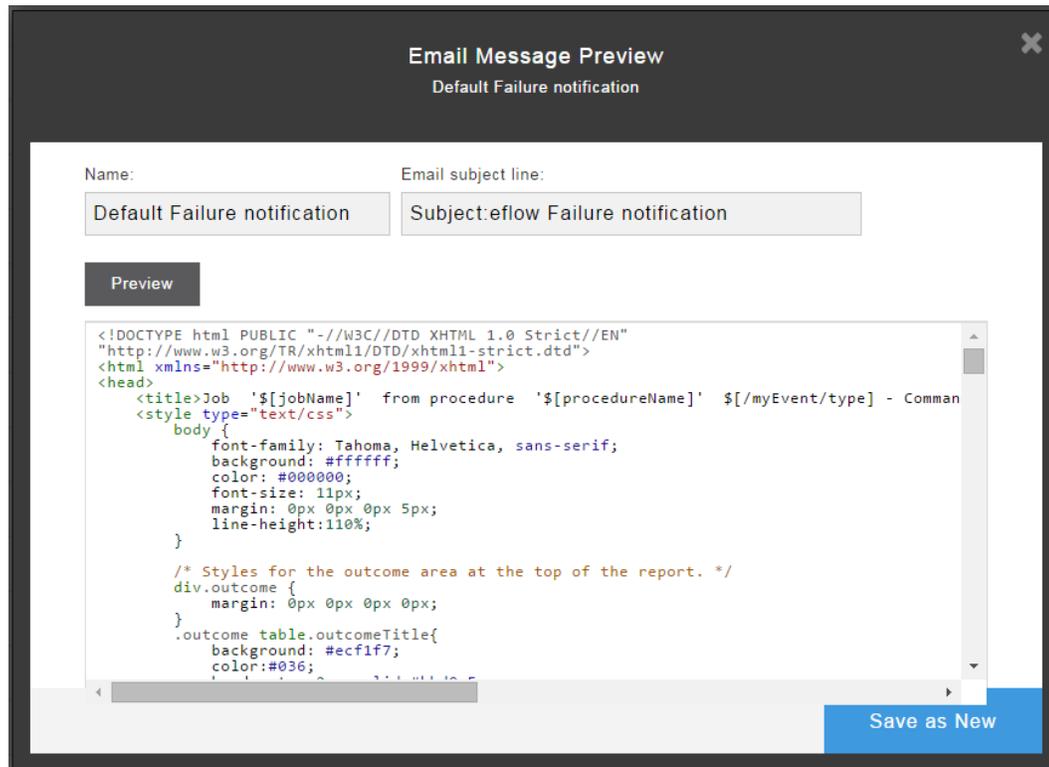
6. To edit the template:

Change the name of the template in the **Name** field.

Change the subject of the email in the **Email subject line**.

To modify the body of the email message, click **Edit HTML** and edit the HTML code.

Example:



7. Click **Preview**.

8. To save your changes:

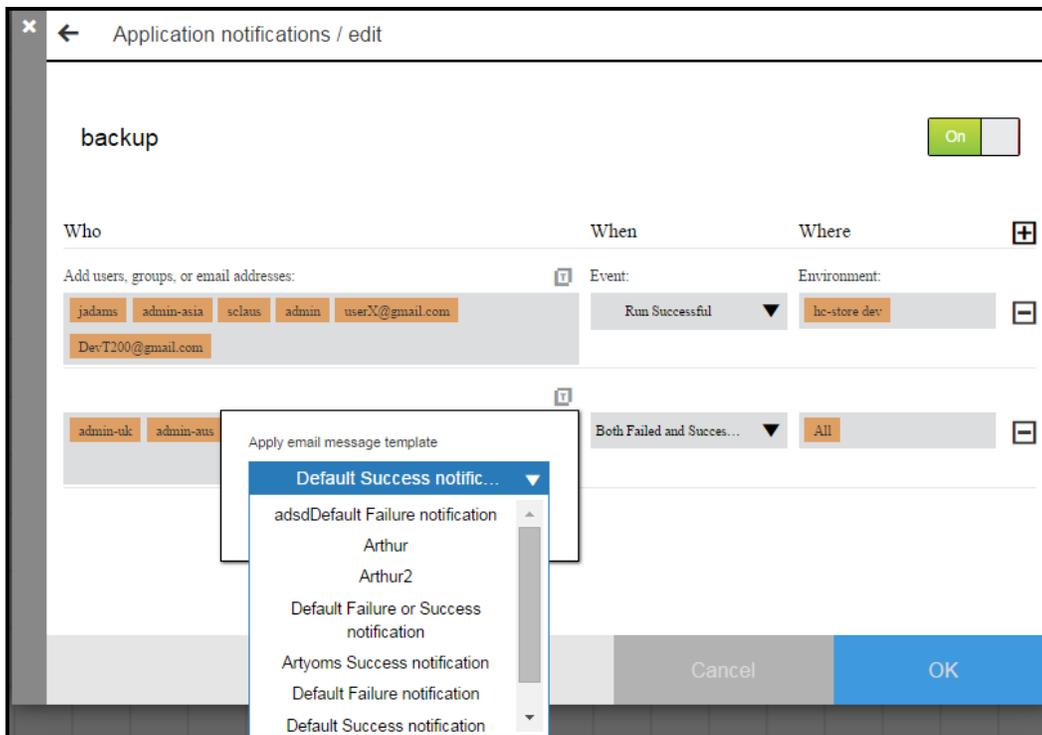
- Click **Save Changes** to save the change in an existing template
- Click **Save as New** to save the template as a new template.

The "Application notifications / edit" wizard re-appears.

- Click the down arrow to open the list of email message templates that can apply to the application.

The new email message template is in the list.

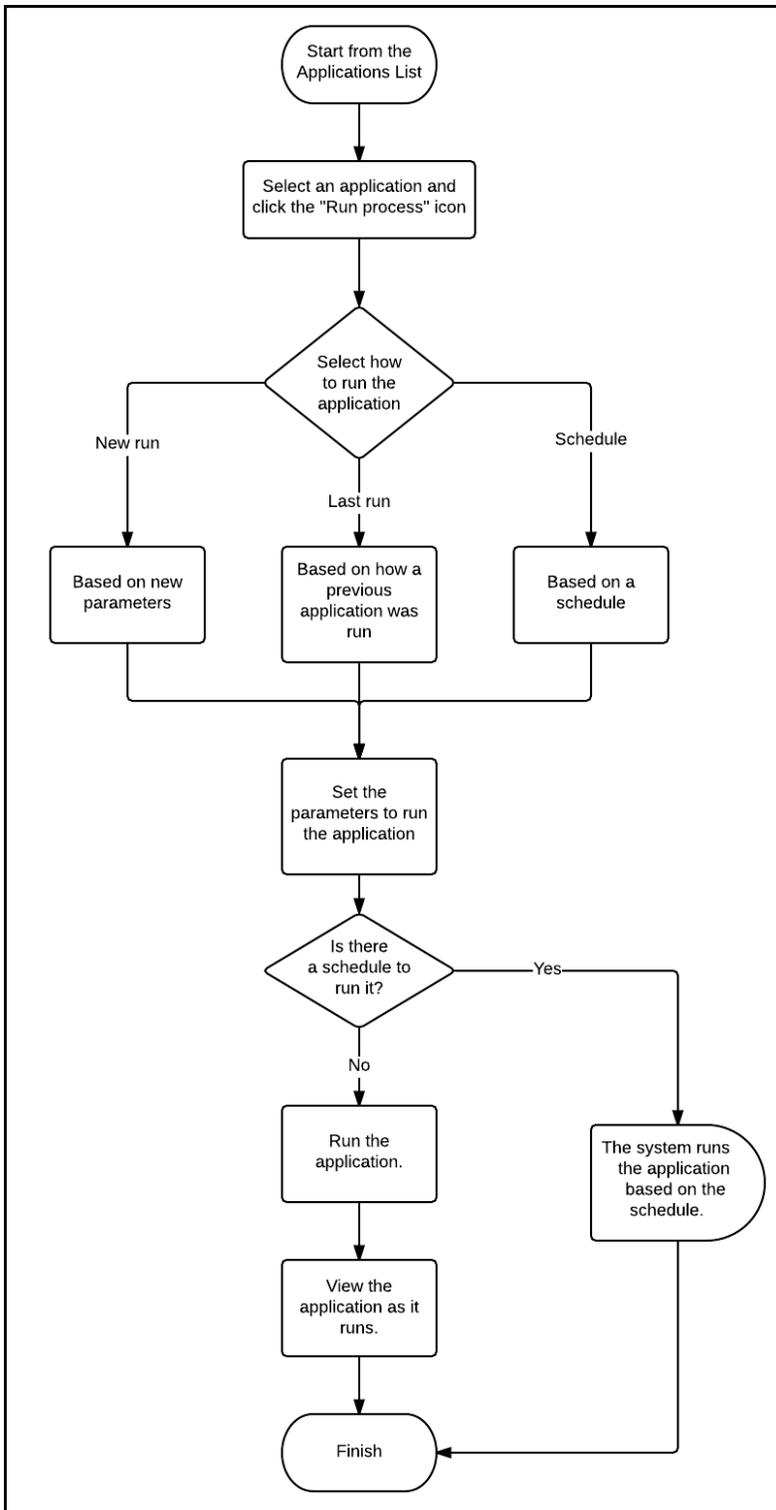
Example:



- Click **OK** to save the settings.

## Running Applications

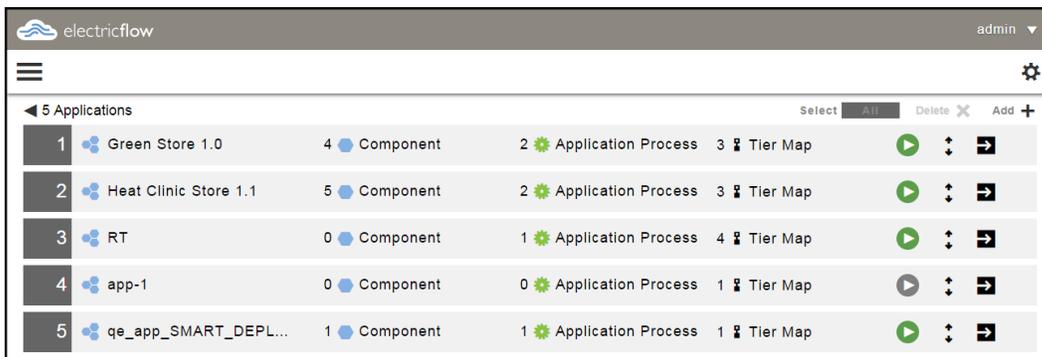
**Note:** Within ElectricFlow, the terms *deploy* and *run* are synonymous. When you deploy an application in ElectricFlow, you run the ElectricFlow application to produce your software or application.



Starting in the Home page:

1. Go to the Applications List.

Example:

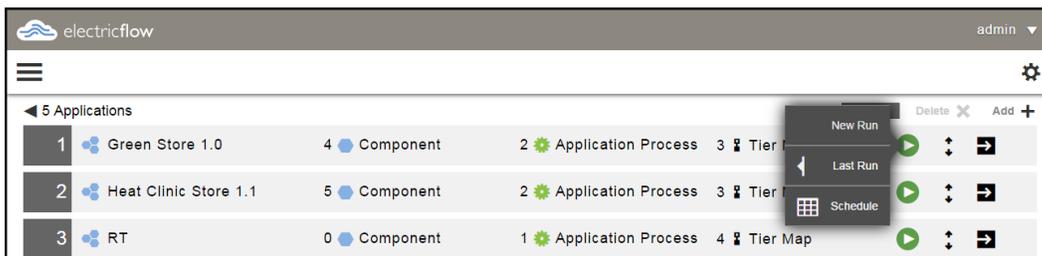


2. Choose an application and click the "Run process" icon.

A menu appears.

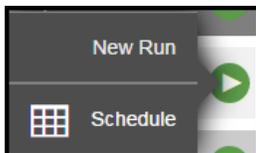
If this is the first time that you are running the application, only the New Run and Schedule options appear.

Example:



If this is the first time that you are running the application, the menu has only the **New Run** and **Schedule** options.

Example:



3. To specify how you want to run the application, select one of these options:

**New run**—Set the parameters.

**Last run**—Use the parameters from a previous run. You can modify one or more of these parameters.

**Schedule**—Set the application to run on a schedule.

To see how these options work, go to one of the following sections:

- [Running Applications with New Parameters](#)
- [Running Applications with Parameters from Previous Runs](#)
- [Running Applications with Schedules](#)

You can view the results in the Application Inventory and the Environment Inventory.

**Related Topics:**

- [Different Ways to Run Applications](#)
- [Deploying Snapshots](#)
- [Using a Wizard to Deploy and Compare Snapshots](#)
- [Viewing Results and Troubleshooting](#)
- [Inventory Tracking](#)

## Running Applications with New Parameters

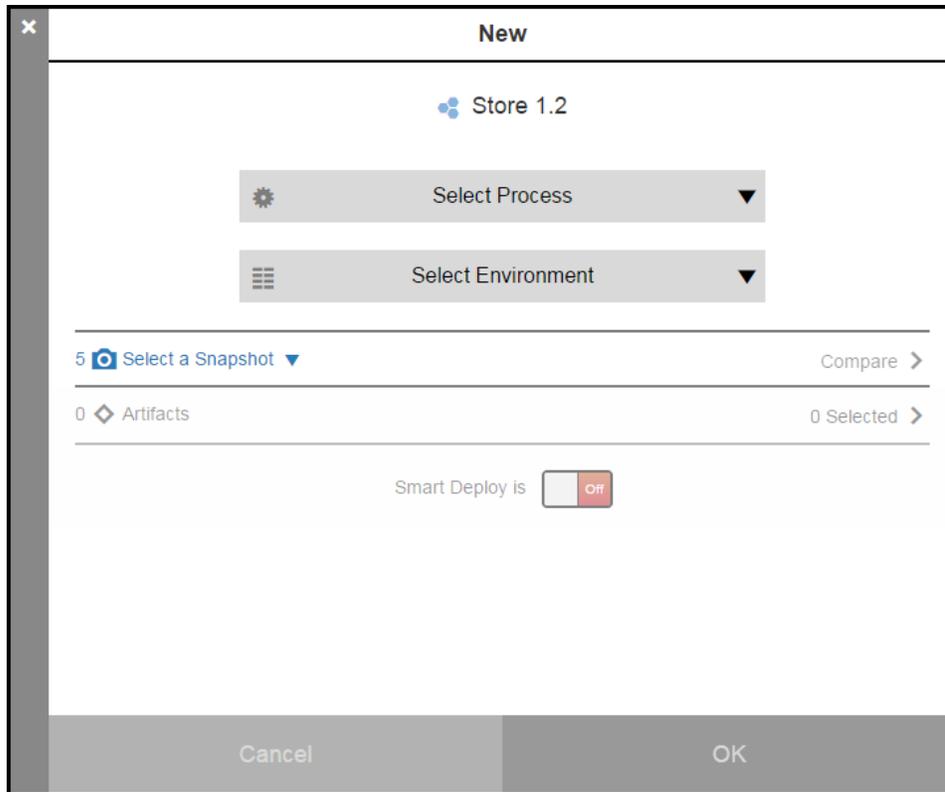
When you use the **New Run** option, you select new parameters when you run the application.

To select the parameters:

1. Select **New Run** in the menu that appears when you click the "Run process" icon in the Applications List.

The wizard to set the parameters for running the application opens.

Example:

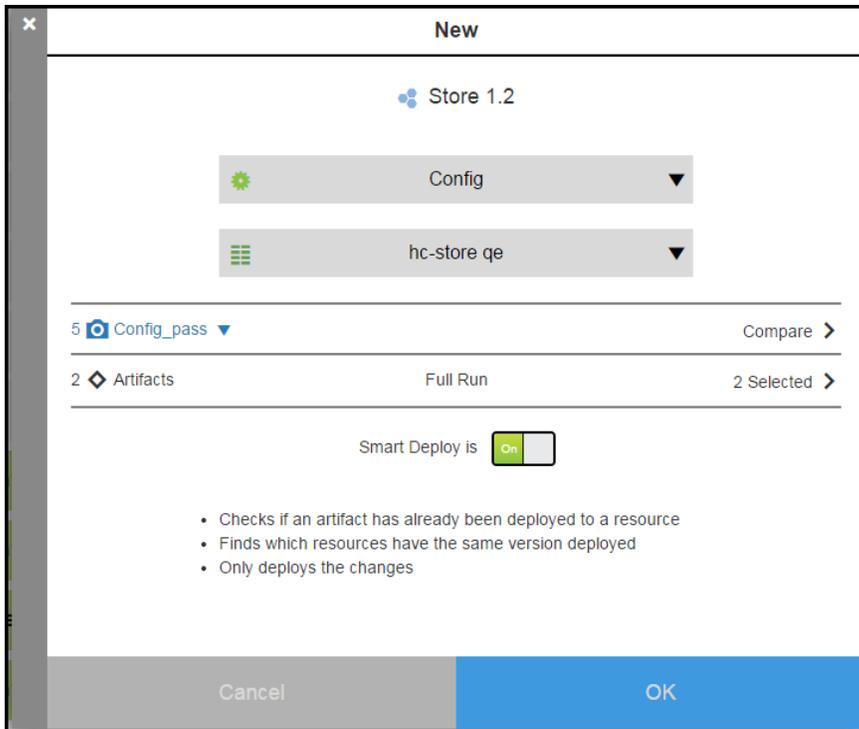


2. Select the application process.
3. Select an environment.

4. (Optional) Select a snapshot.

**Note:** If this is the first time that you are running the application, smart deploy is not enabled.

Example:

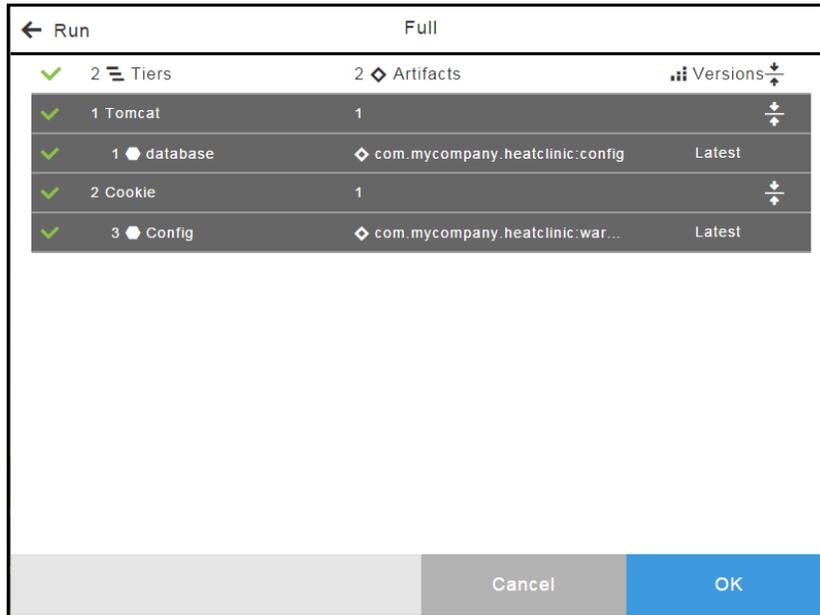


- To select and configure the **Full Run** option, click **Full Run**, and then click **OK**.

A dialog box opens showing the objects in the application.

This example shows that all of the objects, application tiers, components, and artifacts, are selected.

Example:



6. To select and configure the **Partial Run** option:

a. Click **Full Run**.

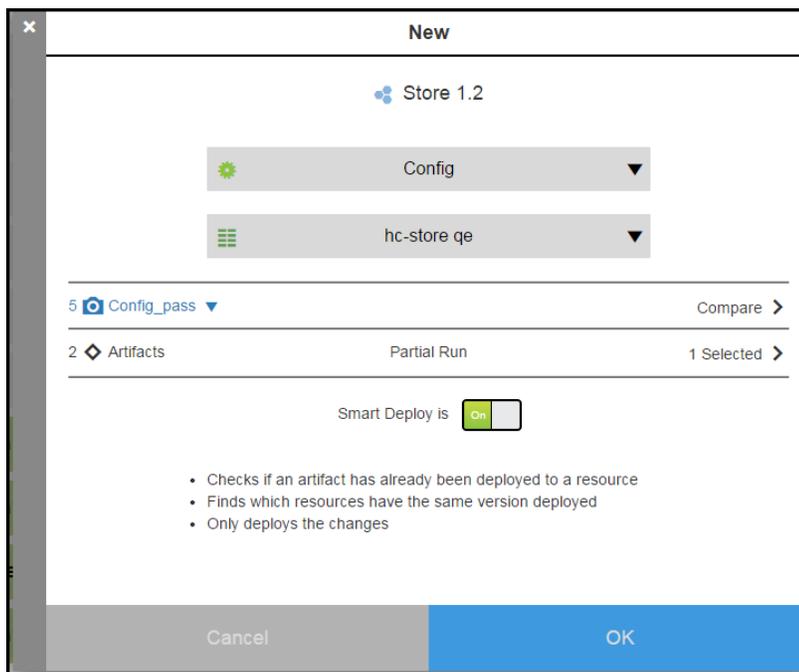
A dialog box opens showing the objects in the application.

b. Determine the objects in the application that you do not want to run, and click the each row to remove them from the run.

c. Click **OK**.

The wizard now shows that the Partial Run option is selected and that only two of four artifacts in application will run.

Example:

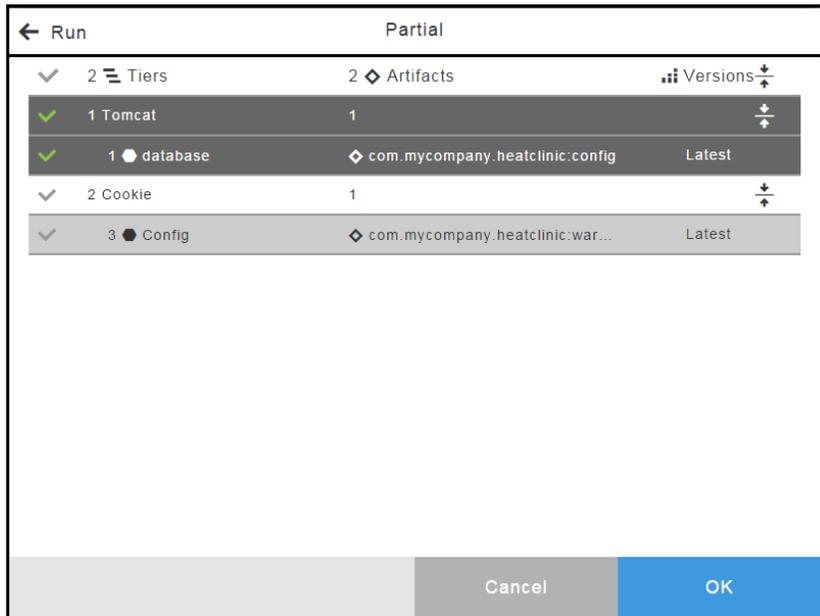


7. To select artifacts with specific versions:

- a. Click **Selected Artifacts**.

A dialog box opens showing the objects in the application. The version of each component is in the Version column. The current version of all the components is *Latest*.

Example:



- b. To change the version of a component, click the down arrow next to current version.

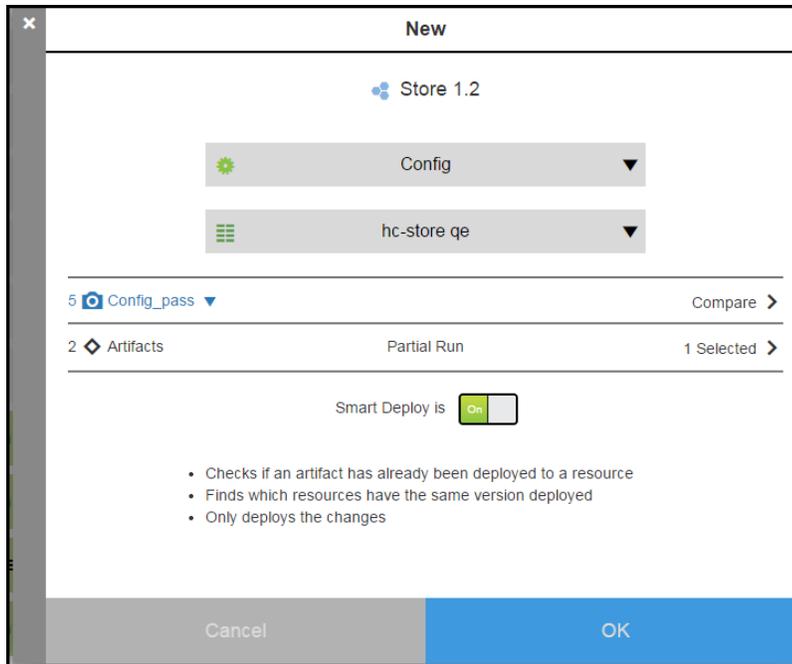
A drop-down menu appears.

- c. Select the version that you want the application to run.

d. Click **OK**.

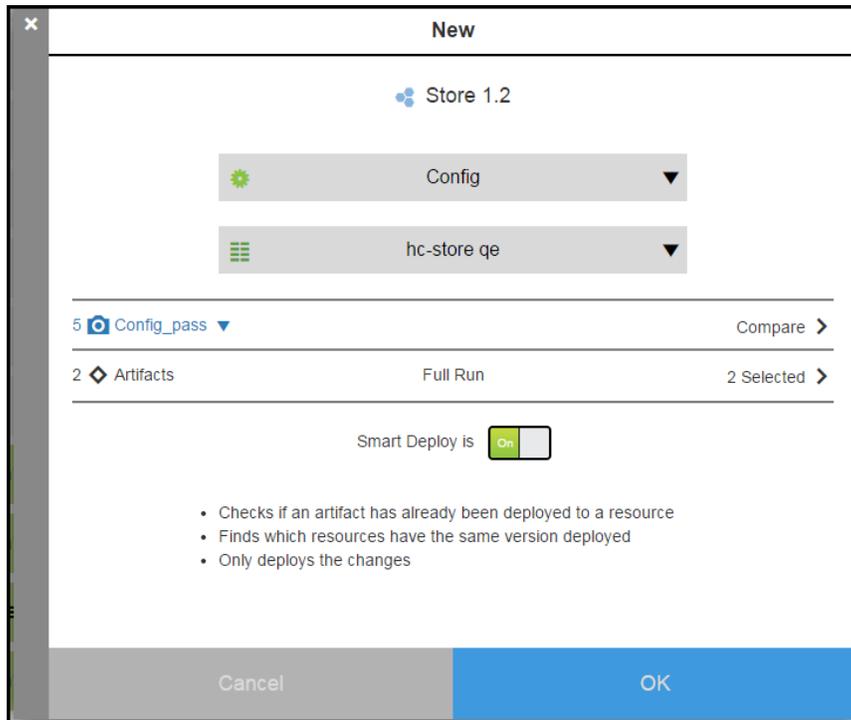
The wizard re-appears.

Example:



8. Click **OK** to run the application.

Example:



You can view the results in the Application Inventory and the Environment Inventory.

#### Related Topics:

- [Different Ways to Run Applications](#)
- [Deploying Snapshots](#)
- [Using a Wizard to Deploy and Compare Snapshots](#)
- [Running Applications](#)
- [Viewing Results and Troubleshooting](#)

## Running Applications with Parameters from Previous Runs

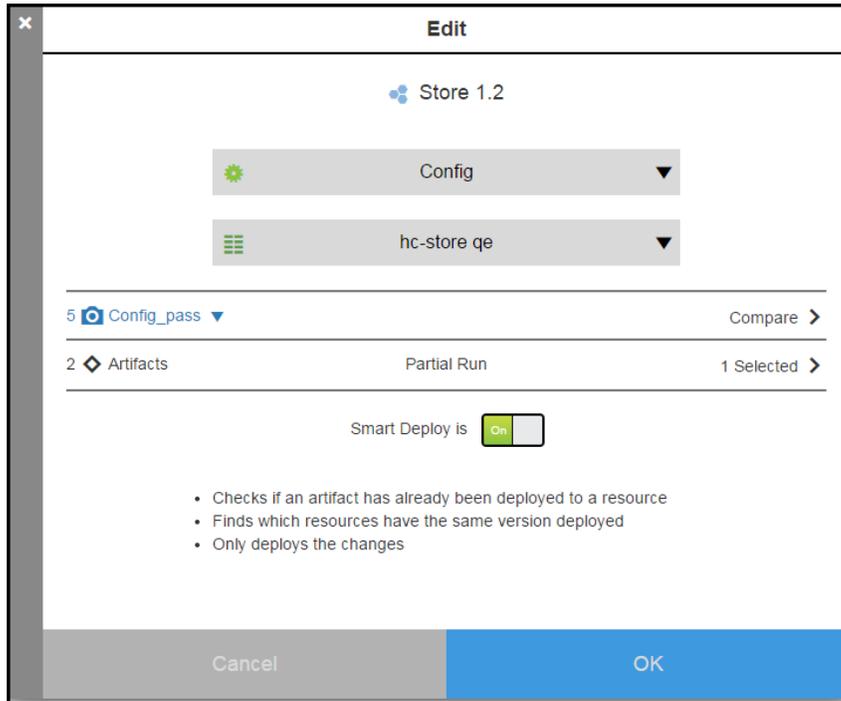
When you use the **Last Run** option, you configure how to run the application based on parameters from a previous run.

To select the parameters:

1. Select **Last Run** in the menu that appears when you click the "Run process" icon in the Applications List.
2. Select a previous run.

The wizard to set the parameters for running the application opens.

Example:

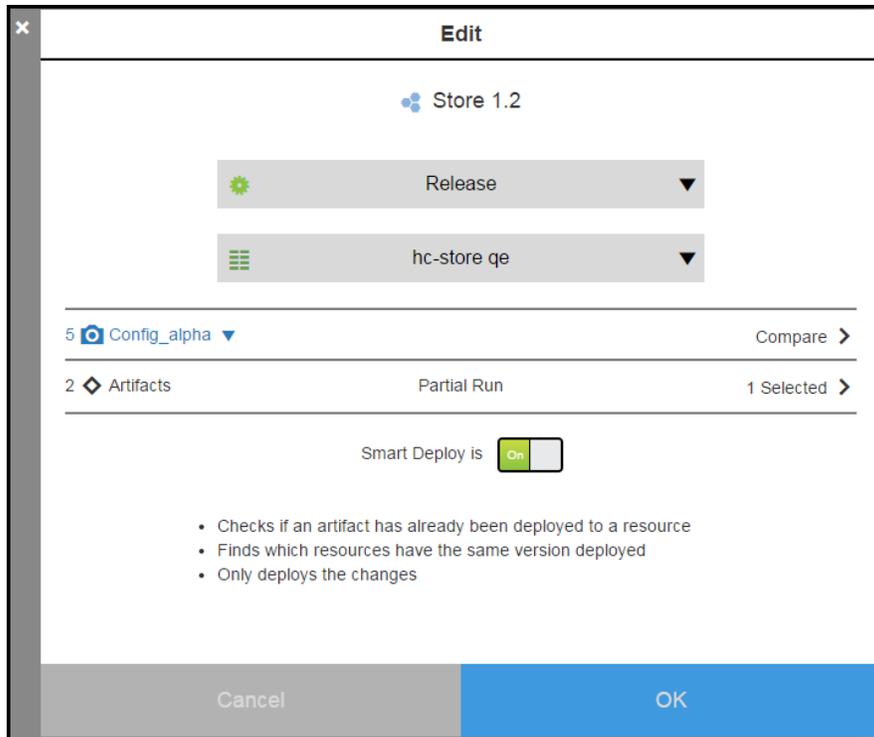


3. Select the application process.
4. Select an environment.

## 5. (Optional) Select a snapshot.

If this is the first time that you are running the application, smart deploy is not enabled.

Example:



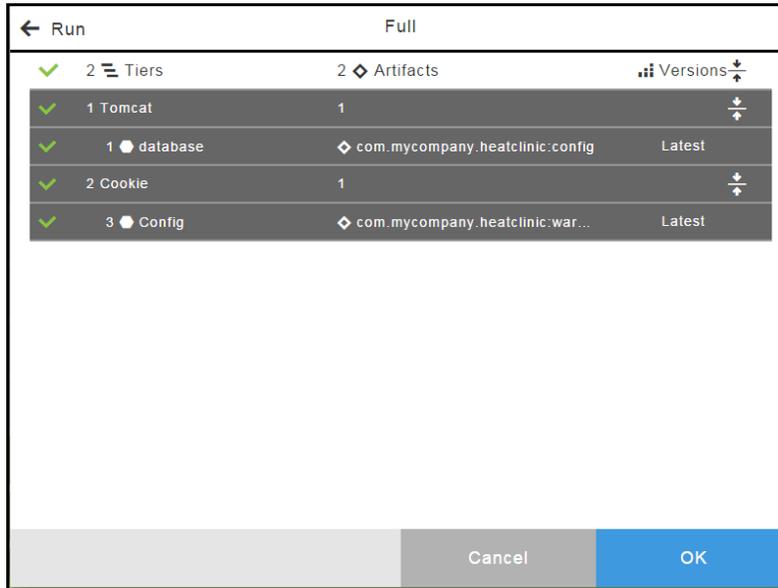
6. To select and configure the **Full Run** option:

a. Click **Full Run**.

A dialog box opens showing the objects in the application.

This example shows that all of the objects, application tiers, components, and artifacts, are selected.

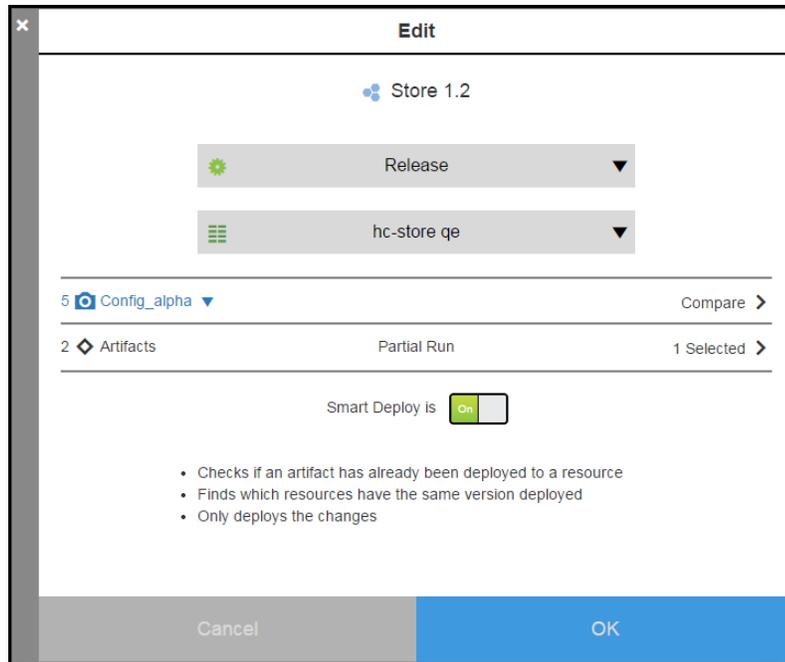
Example:



- b. Click **OK**.

The wizard re-appears.

Example:



7. To select and configure the **Partial Run** option:

- a. Click **Full Run**.

A dialog box opens showing the objects in the application.

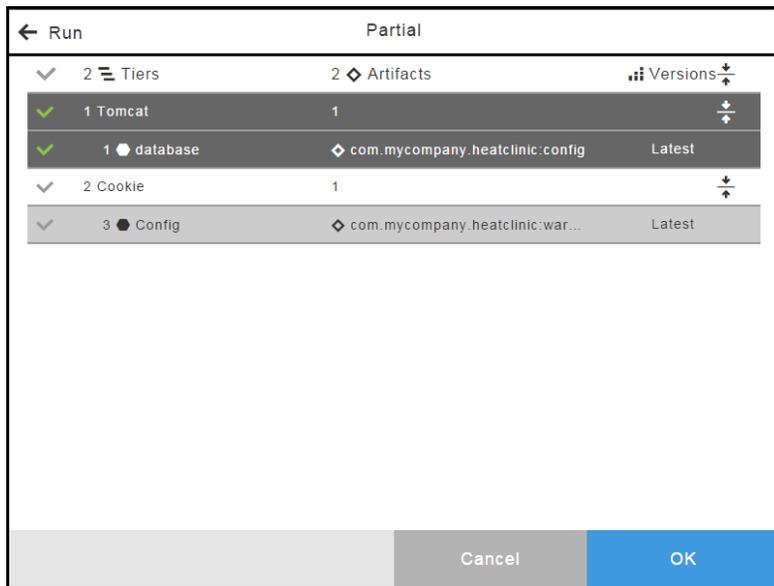
- b. Determine the objects in the application that you do not want to run and click the each row to remove them from the run.
- c. Click **OK**.

8. To select artifacts with specific versions:

a. Click **Selected Artifacts**.

A dialog box opens showing the objects in the application. The version of each component is in the Version column. The current version of all the components is *Latest*, the latest version of the component.

Example:



b. To change the version of a component, click the down arrow next to current version.

A drop-down menu appears.

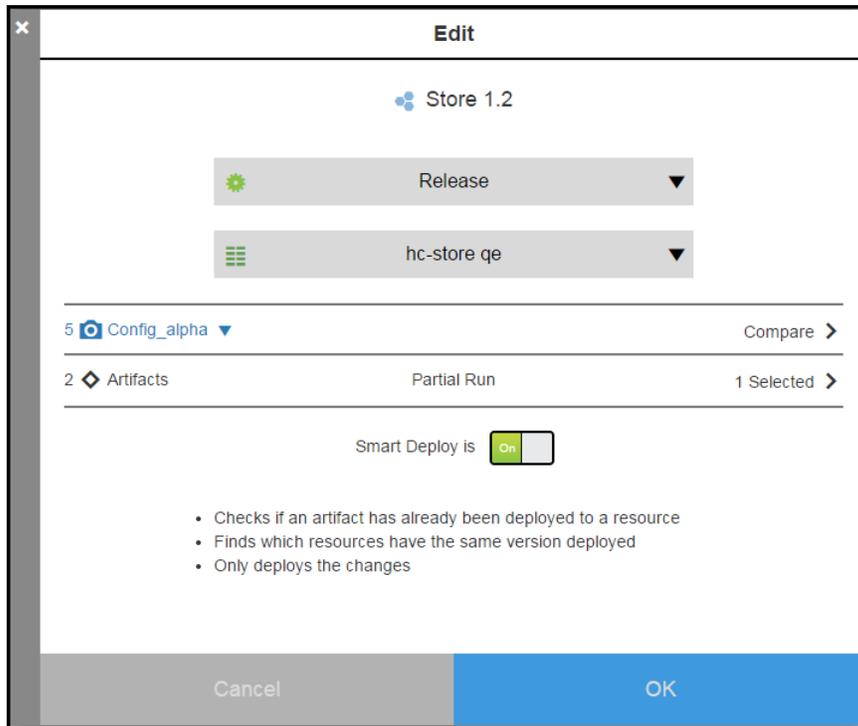
c. Select the version that you want the application to run.

d. Click **OK**.

The wizard re-appears.

9. Click **OK** to run the application.

Example:



You can view the results in the Application Inventory and the Environment Inventory.

#### Related Topics:

- [Different Ways to Run Applications](#)
- [Deploying Snapshots](#)
- [Using a Wizard to Deploy and Compare Snapshots](#)
- [Running Applications](#)
- [Viewing Results and Troubleshooting](#)

## Running Applications with Schedules

When you use the **Schedule** option, you set the day and time when the application runs.

To set the schedule:

1. Select **Schedule** in the menu that appears when you click the "Run process" icon in the Applications List.

The Schedule dialog box opens.

Example:



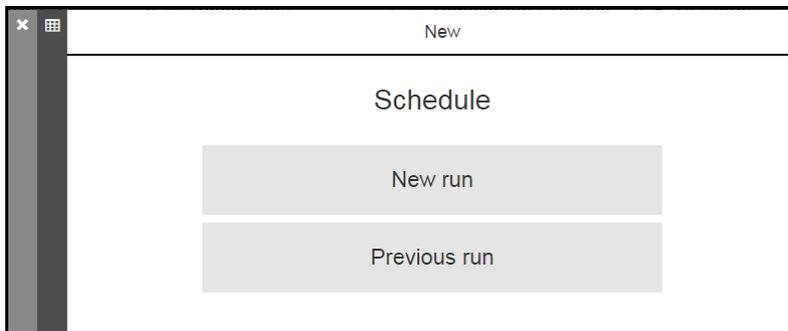
- a. Click the Add icon in the upper right corner.

Example:



The New Schedule wizard appears.

Example:



- b. Select **New run** or **Previous run**.

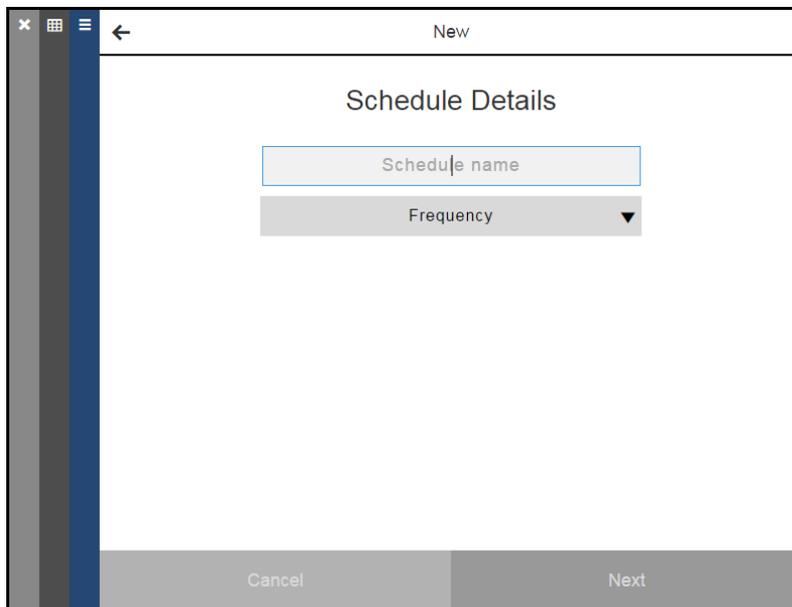
If this is the first time that you are running the application, select **New run** and go to the appropriate next step.

If you select **Previous Run**, go to the appropriate next step.

- c. Select **New run**.

The New Schedule Details wizard opens. The New Schedule Details dialog box opens.

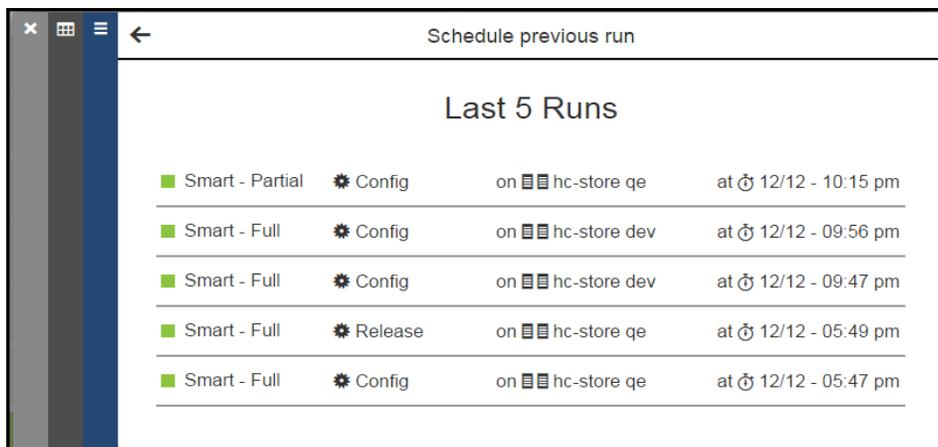
Example:



- d. Select **Previous run**, and then select a run in the "Schedule previous run" wizard.

The "Schedule previous run" wizard has information about the last five runs.

Example:



The New Schedule Details wizard opens.

- e. Enter the schedule name and click in the **Frequency** field to set how often the application runs in the **Frequency** field.

Example:

The screenshot shows a mobile application interface for creating a new schedule. The title bar at the top says "New" and "Schedule Details". There is a text input field containing "Daily Test". Below it is a dropdown menu labeled "Frequency" with a downward arrow. The dropdown menu is open, showing four options: "Once", "Daily", "Weekly", and "Monthly". At the bottom of the form are two buttons: "Cancel" and "Next".

Depending on the frequency that you select, different fields appear.

- **Once**—Enter information in the date (Month, Day, and Year) and the time (hours, minutes, and **AM** or **PM**) fields.
- **Daily**—Enter only the time (hours, minutes, and **AM** or **PM**).
- **Weekly**—Enter the **Day of week** (Monday to Sunday) and the time (hours, minutes, and **AM** or **PM**).
- **Monthly**—Enter the **Day** and the time (hours, minutes, and **AM** or **PM**).

- f. Enter the appropriate information in the fields below the **Frequency** field.

Example:

The screenshot shows a mobile application interface for scheduling. At the top, there is a title bar with a back arrow, a close button (X), a grid icon, and a menu icon (three horizontal lines). The title of the screen is "New". Below the title bar, the main content area is titled "Schedule Details". The form consists of several fields: a text input field containing "Daily Test", a dropdown menu currently set to "Daily", and two time-related input fields: one labeled "hh:mm" and another labeled "AM" with a dropdown arrow. At the bottom of the screen, there are two large buttons: "Cancel" on the left and "Next" on the right.

For example, if you select **Daily**, set the time (hours, minutes, and **AM** or **PM**). In the time fields, click in it and enter the hours and minutes and then select **AM** or **PM**.

Example:

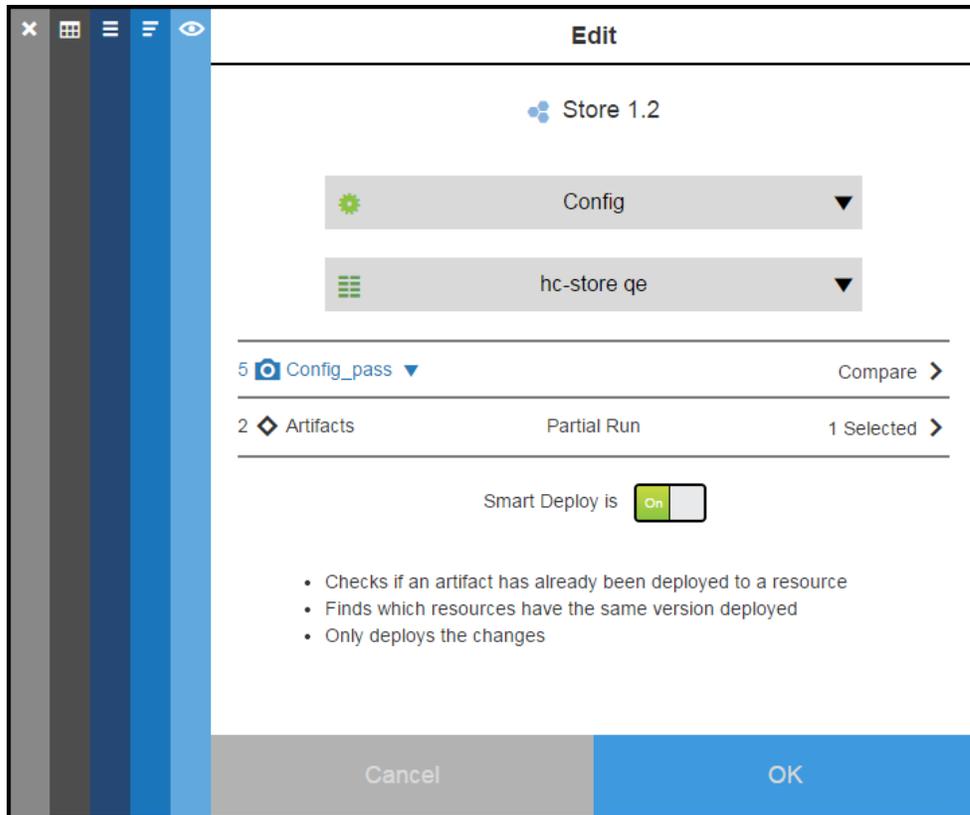
The screenshot shows a mobile application interface for scheduling. The title bar at the top contains a close button, a menu icon, and a back arrow, followed by the text 'New'. Below this is a section titled 'Schedule Details'. It features three input elements: a text field containing 'Daily Test', a dropdown menu currently showing 'Daily', and a time selection field showing '01:\_\_\_' with a dropdown menu open, listing 'AM' (selected), 'AM', and 'PM'. At the bottom of the dialog, there are two buttons: a grey 'Cancel' button on the left and a blue 'Next' button on the right.

- g. Click **Next**. The wizard to set the parameters for running the application opens.
2. Select an application process.

### 3. Select an environment.

If this is the first time that you are running the application, smart deploy is not enabled.

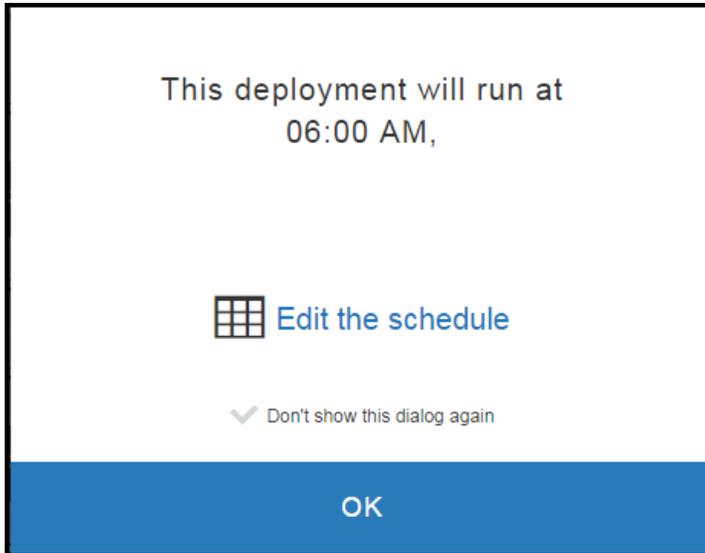
Example:



4. Click **OK**.

A message appears about when the application is run according to the schedule.

Example:



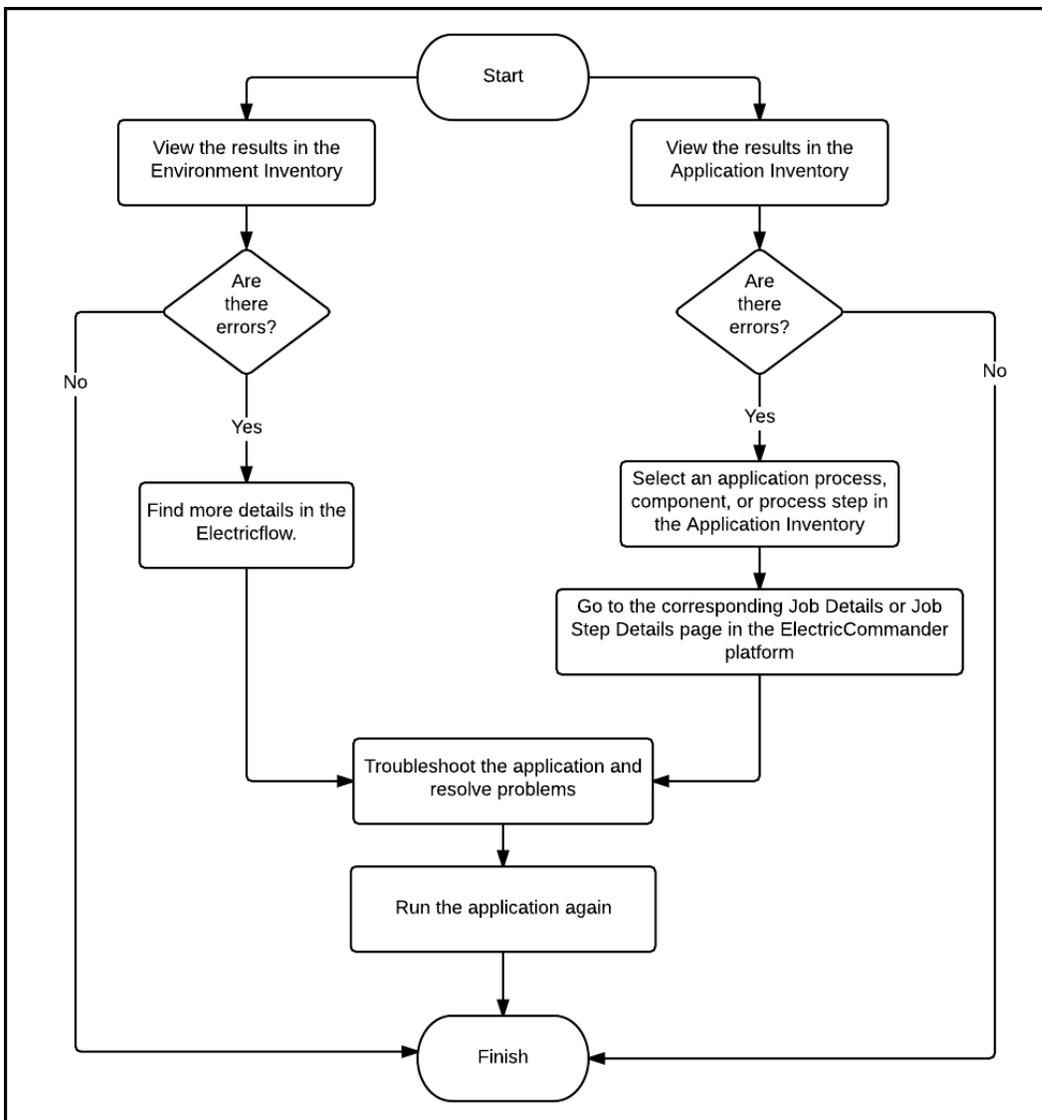
When it is time for the application to run, the system runs it in the background.

You can view the results in the Application Inventory and the Environment Inventory.

**Related Topics:**

- [Different Ways to Run Applications](#)
- [Deploying Snapshots](#)
- [Using a Wizard to Deploy and Compare Snapshots](#)
- [Running Applications](#)
- [Viewing Results and Troubleshooting](#)

## Viewing Results and Troubleshooting



## Viewing the Environment Inventory

Follow these steps to get more information about a specific environment.

Starting at the Home page:

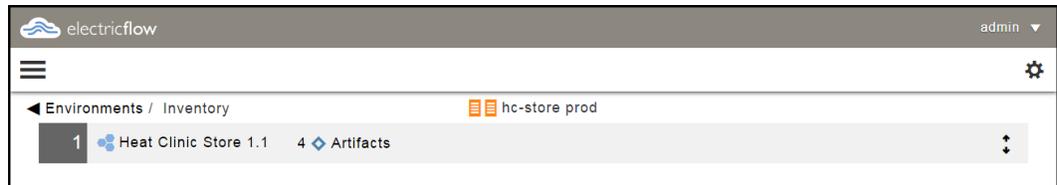
1. Go to the Environments List.
2. Choose an environment.

3. Click the inventory icon.

Example:



Example:



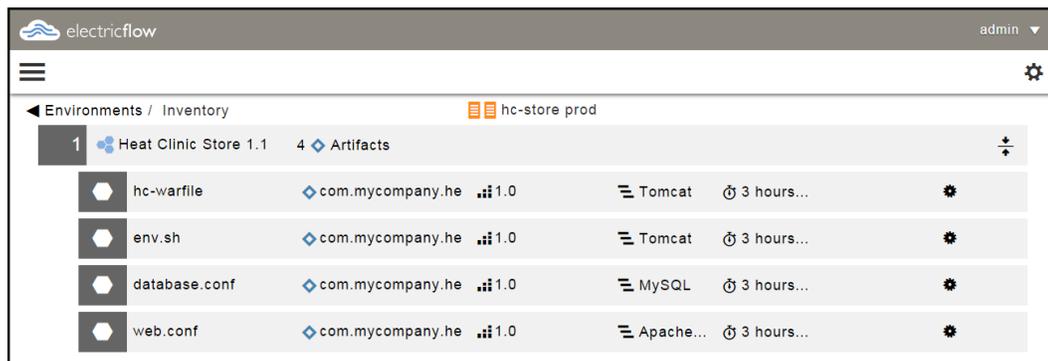
4. Click the View icon to view more information.

Example:



The Environment Inventory opens.

Example:



5. Click the gear icon to view more information.

## Viewing the Application Inventory

Follow these steps to get more information about a specific application.

Starting at the Home page:

1. Go to the Applications List.
2. Click the "View Details" icon to get more information.

Example:



Details about the application processes, components, and process steps appear.

Example:



3. Choose an application process, component, and process step, and click the "View details" icon for more information about it.

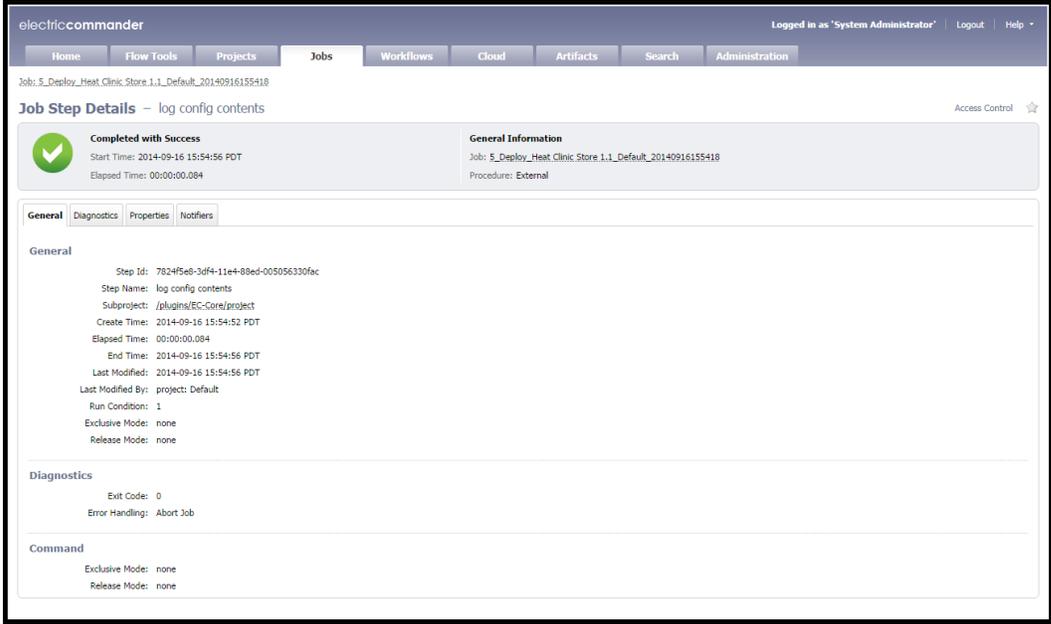
## Examples

The following are examples of the information that you can get about an application process, component, and process step.

To get more information about a step that ran successfully, click the "View details" icon in the "log config contents" step.

The Job Step Details page for it appears in the ElectricCommander platform.

Example:



The screenshot shows the ElectricCommander interface. At the top, there is a navigation bar with tabs for Home, Flow Tools, Projects, Jobs, Workflows, Cloud, Artifacts, Search, and Administration. The user is logged in as 'System Administrator'. The main content area is titled 'Job Step Details - log config contents'. It features a green checkmark icon and the text 'Completed with Success'. Below this, there are two columns of information: 'General Information' and 'General'. The 'General Information' column shows the Job ID and Procedure. The 'General' column shows the Step ID, Name, Subproject, Create Time, Elapsed Time, End Time, Last Modified, Last Modified By, Run Condition, Exclusive Mode, and Release Mode. Below the 'General' section, there are sections for 'Diagnostics' and 'Command', both showing 'Exclusive Mode: none' and 'Release Mode: none'.

electriccommander Logged in as 'System Administrator' | Logout | Help

Home Flow Tools Projects **Jobs** Workflows Cloud Artifacts Search Administration

Job: 5\_Deploy\_Heat.Clinic.Store.1.1\_Default\_20140916155418

**Job Step Details** - log config contents Access Control ☆

 **Completed with Success**

**General Information**

Start Time: 2014-09-16 15:54:56 PDT  
Elapsed Time: 00:00:00.084

Job: 5\_Deploy\_Heat.Clinic.Store.1.1\_Default\_20140916155418  
Procedure: External

**General** | Diagnostics | Properties | Notifiers

**General**

Step Id: 7824f5e8-3df4-11e4-88ed-005056330fac  
Step Name: log config contents  
Subproject: /plugins/EC-Core/project  
Create Time: 2014-09-16 15:54:52 PDT  
Elapsed Time: 00:00:00.084  
End Time: 2014-09-16 15:54:56 PDT  
Last Modified: 2014-09-16 15:54:56 PDT  
Last Modified By: project: Default  
Run Condition: 1  
Exclusive Mode: none  
Release Mode: none

**Diagnostics**

Exit Code: 0  
Error Handling: Abort Job

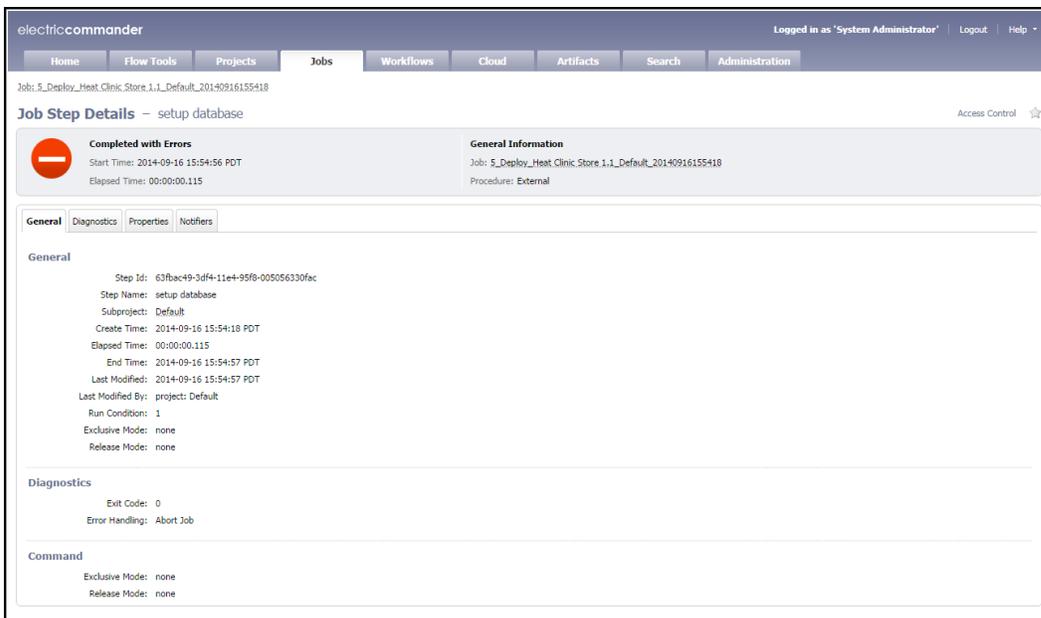
**Command**

Exclusive Mode: none  
Release Mode: none

To get information about a component process that failed, click the "View details" icon in the "setup database" component.

The Job Step Details page for it appears in the ElectricCommander platform.

Example:



When you click on the "Job:5\_Deploy\_Heat Clinic Store 1.1\_Default\_20140916155418" link in the General Information section, you go to the Job Details page in the ElectricCommander platform.

Example:

adapt_config_file	Completed with Success	00:00:00.452		
resource:11	Completed with Success	00:00:00.452		
Adapt File	Completed with Success	00:00:00.454	resource:11	Edit
log_config_contents	Completed with Success	00:00:00.084		
resource:11	Completed with Success	00:00:00.084		
runCommand	Completed with Success	00:00:00.072	resource:11	Edit
setup_database	Completed with Errors	00:00:00.115		
Create database	Completed with Errors	00:00:00.115		
resource:11	Completed with Errors	00:00:00.115		
runCommand	exit code 1	00:00:00.093	resource:11	Edit
start_tomcat	CANCELED	00:00:00.000		
Create Link to application	CANCELED	00:00:00.000		

Records per page: 100 1 thru 77 of 77

If you click on the log icon in the runCommand row, the log file appears:

Example:



With the information, you can troubleshoot application, resolve problems, and rerun the application.

**Related Topics:**

- [Inventory Tracking](#)
- [Viewing Job Details](#)

## Running a New Search Through the Change History

Follow these steps to start a search through the Change History.

Starting from the Home page:

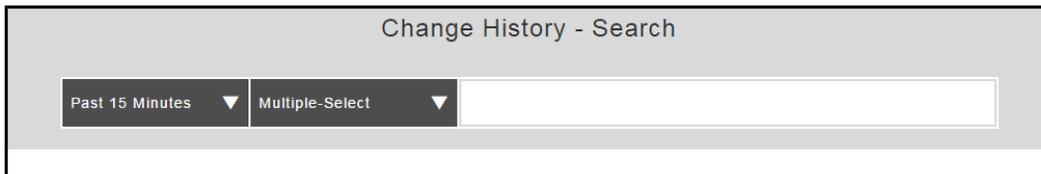
1. Click the Search icon.

Example:



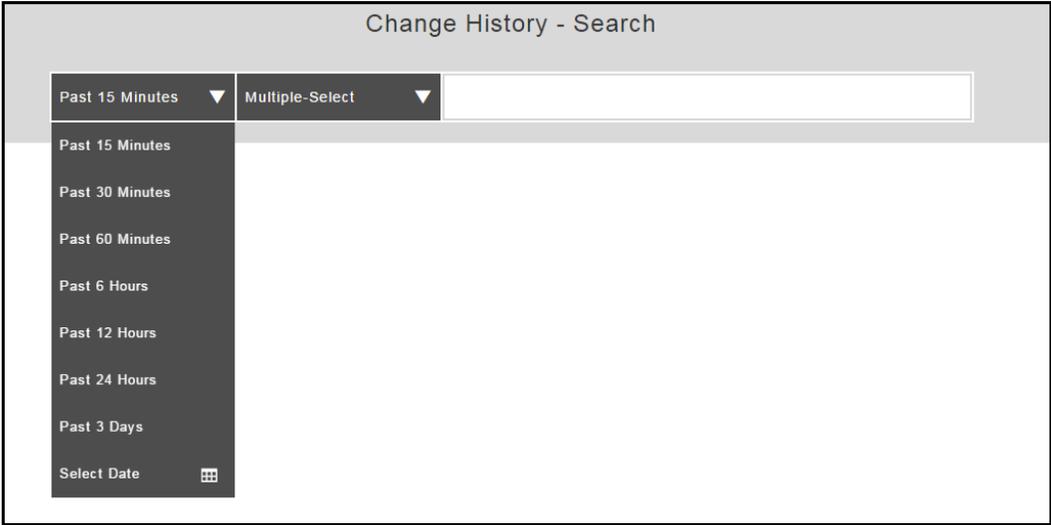
The Change History - Search dialog box opens.

Example:

A screenshot of a dialog box titled "Change History - Search". The dialog box has a light gray background and a dark gray border. At the top, the title "Change History - Search" is centered. Below the title, there are two dropdown menus and a text input field. The first dropdown menu is labeled "Past 15 Minutes" and has a downward arrow. The second dropdown menu is labeled "Multiple-Select" and also has a downward arrow. To the right of these dropdowns is a white text input field with a thin border.

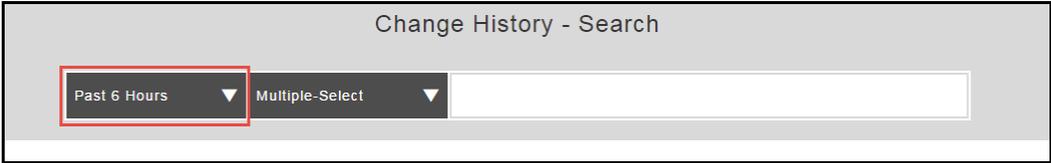
2. Click the down arrow in the Time Increment field to open the drop-down list.

Example:



3. Select a time increment.

Example:



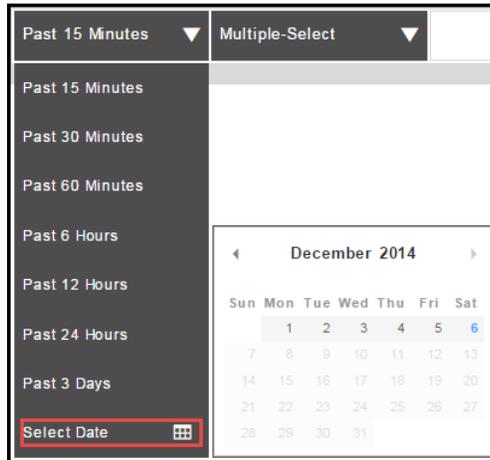
If you want to select a time increment longer than three days, go to the next step.

4. (Optional) If you want to use a time increment longer than three days, do the following:

- a. Click **Select Date**.

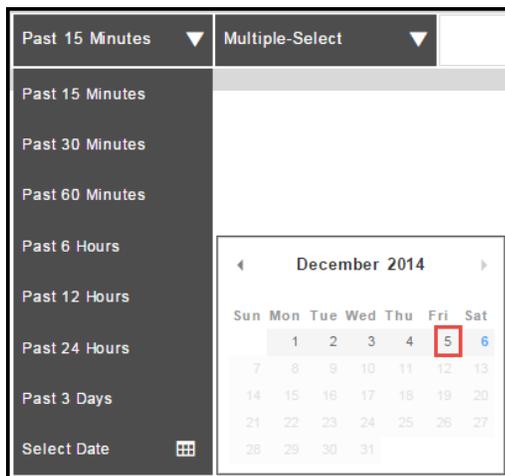
The Date Picker opens.

Example:



b. Select a date.

Example:



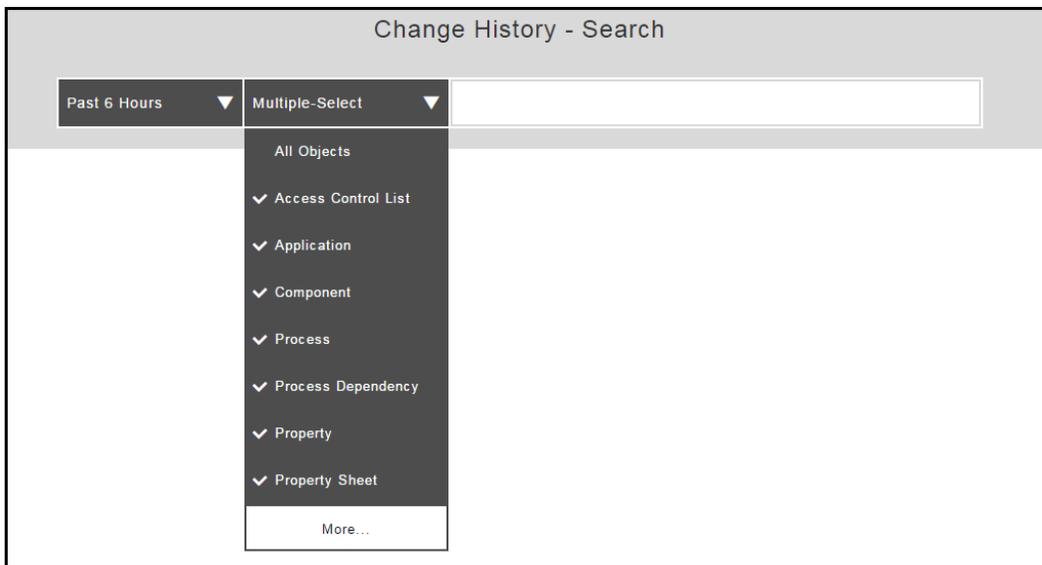
The Date Picker closes and the date that you selected appears in the Time Increment field.

Example:



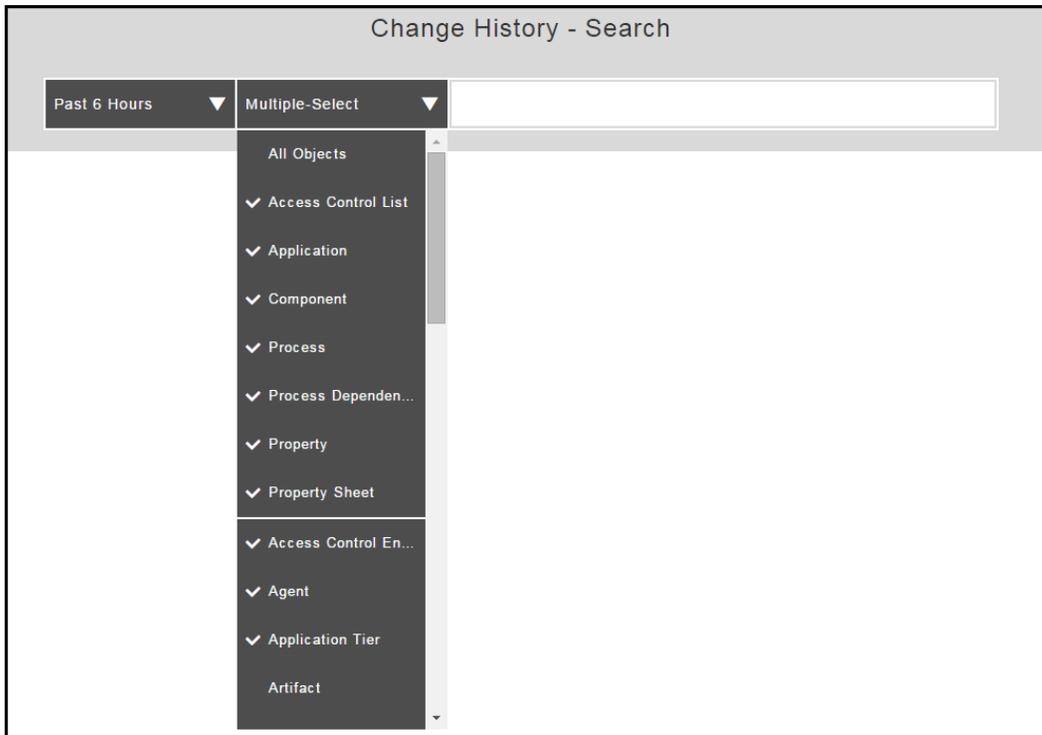
5. Click **Multiple Select** to open the drop-down list of tracked objects.

Example:



6. Select the objects to include in the Change History.

Example:

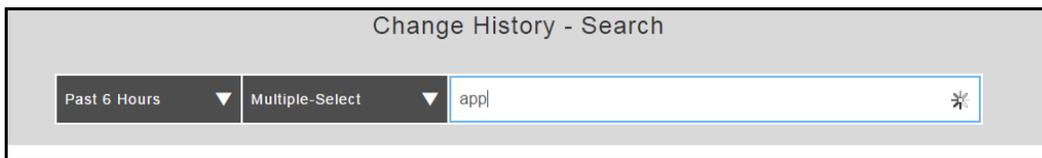


7. Enter the search criteria.

As you type, the system starts to search for objects that match your search criteria.

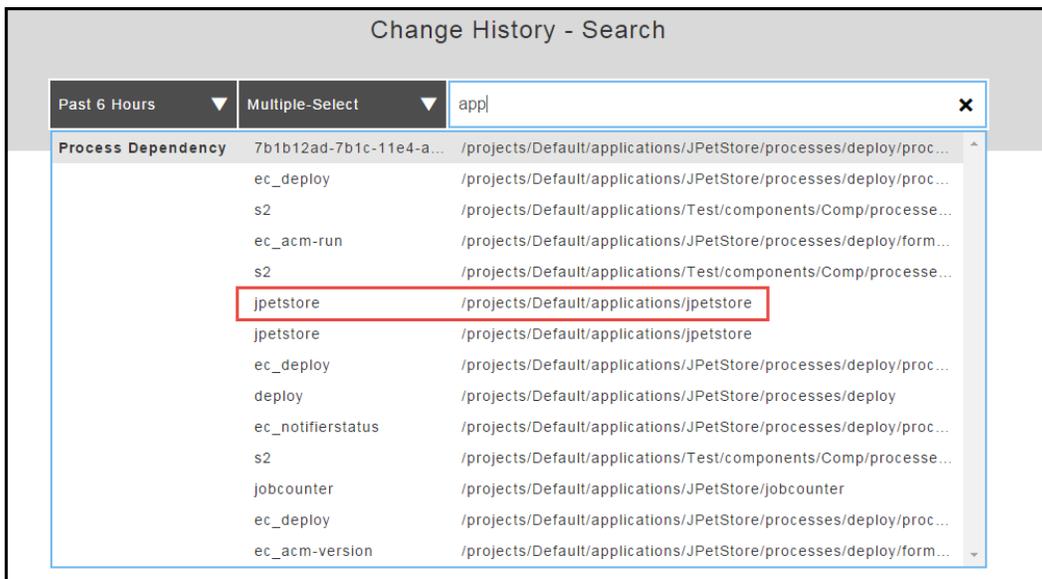
A list of objects matching your search criteria appears in the results section.

Example:



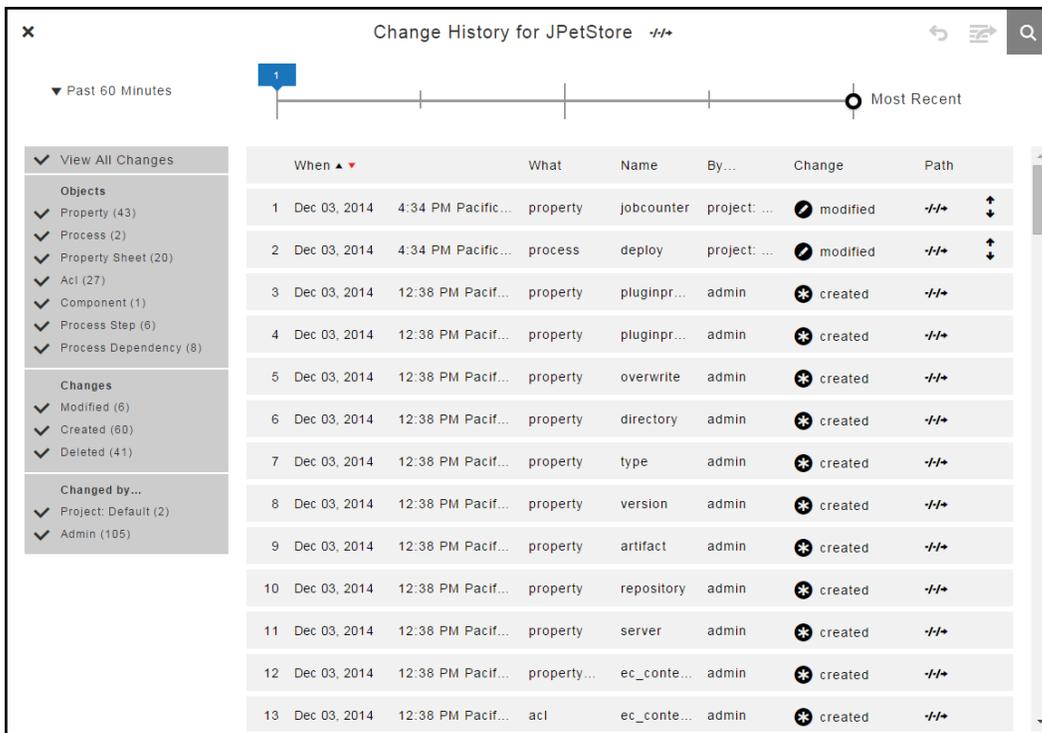
8. Select an object in the list.

Example:



The change history for the object that you selected appears.

Example:



## Process Branching

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This section describes Processing Branching and how to use it.

As you use ElectricFlow, remember that these terms have different meanings within ElectricFlow and when you use ElectricFlow to deploy your software or application:

### Application

- Within ElectricFlow—The application that you design and run (deploy) to produce your software for continuous delivery across different pipelines.
- Using ElectricFlow—The software, system or application that you build, test, install, implement, release, and deploy using ElectricFlow. This is the end product of using ElectricFlow.

### Deploy

- Within ElectricFlow—Running the application that you designed in ElectricFlow. The end product is your software, system, or application. Deploy is a synonym of run in ElectricFlow.
- Using ElectricFlow—All the processes or actions to develop and run your software in its environment, including building, testing, implementing, installing, configuring, making changes, and releasing.

### Run

- Within ElectricFlow—Running the application that you designed. The end product is your software, system, or application. Run is a synonym of deploy in ElectricFlow.
- Using ElectricFlow—All the processes or actions to use software in its environment, including implementing, installing, configuring, debugging, troubleshooting, and releasing.

## About Process Branching

Starting in ElectricFlow 5.1, you can use process branching to specify the path through an application or component process based on transition conditions other than out-of-the-box options. Decisions about the next step in the process are made while the process runs. This is similar to the transition conditions for workflows in the ElectricCommander platform.

If the application or component process applies to multiple use cases, you can design one process with two or more branches instead of designing multiple processes for each use case. You can also define steps that run in parallel.

For example, to install or upgrade software, you can define one process for multiple use cases and use the same steps except for the following:

- The source files can be in .zip or .tar format. The steps to extract the files depend on the format.
- The operating system can be Linux or Windows. The steps to download the files, install them on the server, and enter commands depend on the operating system.

ElectricFlow supports the following branching conditions. The default is **Always**.

- Completion status of the previous process step
- A property set in another part of the system, not the in the previous step

- Custom validation rules

When you define a step in an application or component process, you configure what ElectricFlow does when an error occurs. You select **stop running** or **continue running** in the On Error field in the Define Step dialog box. *This setting overrides any job-step-level branching condition.* If an error occurs in a job step and the **stop running** is set, ElectricFlow aborts even if the branching condition is fail.

## How to Use the Process Branching UI

### How to get to the Application Process Designer:

- Existing application process: From the Applications Designer, click the down-arrow icon and select an application.

The Application Process Designer for that application process appears.

- New application process: From the Applications Designer, click the "Add application process" icon, set the parameters in the Application Process Details dialog box, and click **OK**.

The Application Process Designer for the application process appears.

### How to get to the Component Process Designer:

- Existing component process: From the Applications Designer, click the "Show component process" icon, and select a component process in the drop-down list.

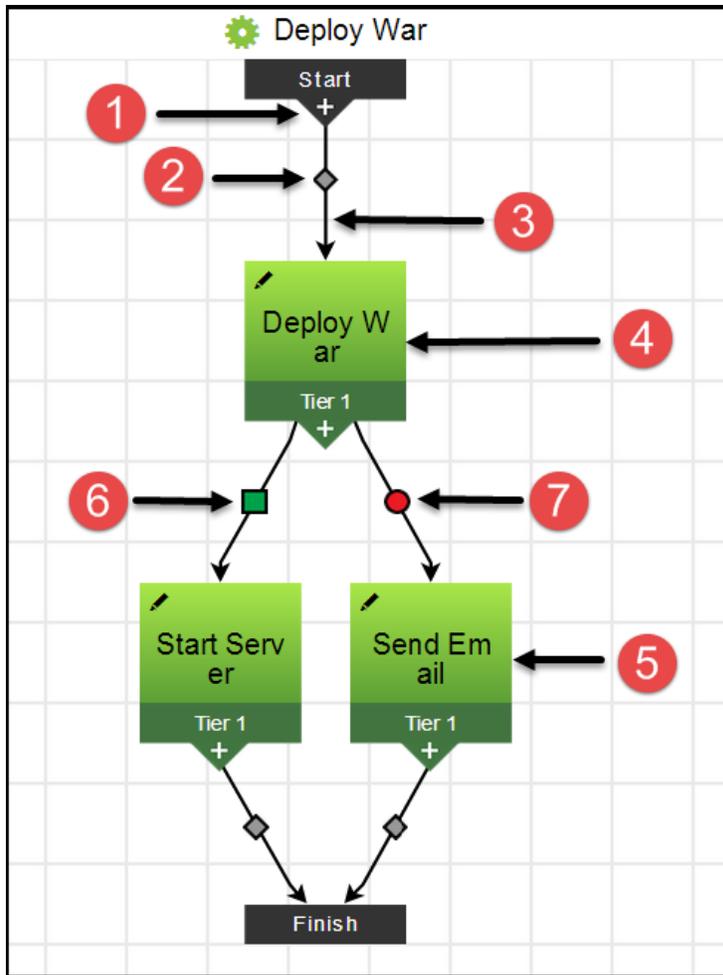
The Component Process Designer for that component process appears.

- New component process: From the Applications Designer, click the "Add component process" icon to a component, set the parameters in the Component Process Details dialog box, and click **OK**.

The Component Process Designer for the component process appears.

## UI Objects

This example shows how a process appears in the ElectricFlow UI.



The process has these UI objects:

1	<p>Click the plus sign (+) to add a step after the selected step.</p> <p>In this example:</p> <ul style="list-style-type: none"> <li>• When you click the plus sign, a new step is added after the Start and parallel to the existing next step called Deploy War.</li> <li>• The steps immediately after the "Deploy War" step are parallel steps. The decision about the next step, either the "Start Server" or the "Send Email" step, depends on the branching condition. The results of the "Deploy War" step determine what the next step is. <ul style="list-style-type: none"> <li>◦ If the results of the "Deploy War" step are successful (shown by the square green connector), the next step is the "Start Server" step.</li> <li>◦ If the results fail (shown by the circular red connector), the next step is the "Send Email" step.</li> </ul> </li> </ul>
2	<p>Connector between two objects in the process. The default branching condition is Always.</p> <p>When you click the connector, the branching conditions menu opens.</p>

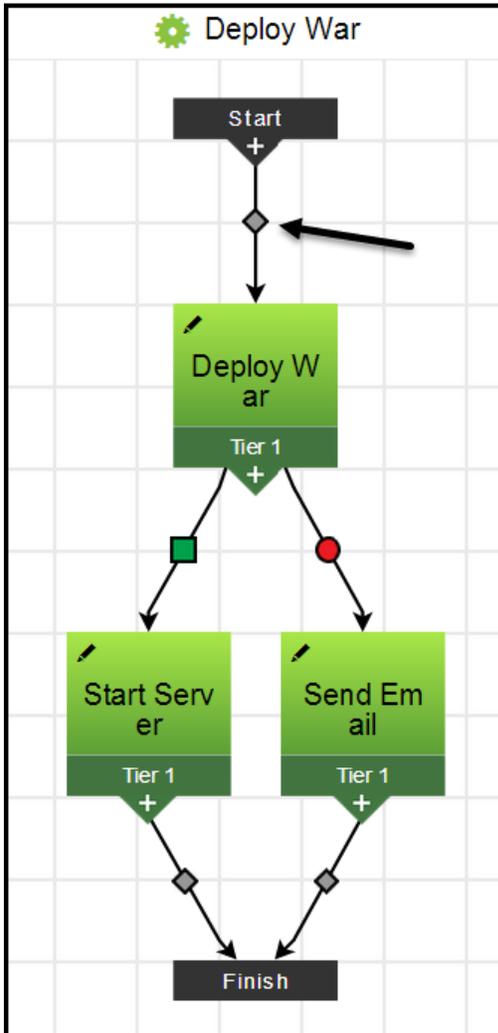
3	<p>Link between two steps in the process.</p> <p>The link goes from the source step to the target step.</p>
4	<p>Source–The link starts at this step.</p> <p>For the link between the "Deploy War" and the "Send Email" steps, the source is the "Deploy War" step.</p>
5	<p>Target–The link ends at this step.</p> <p>For the link between the "Deploy War" and the "Send Email" steps, the source is the "Send Email" step.</p>
6	<p>The branching condition is <b>Successful</b>.</p> <p>If the War file is run successfully in this example, the next step is Start Server.</p>
7	<p>The branching condition is <b>Failure</b>.</p> <p>If the file is not run in this example, the application fails and the next step is to send an email to the administrator.</p>

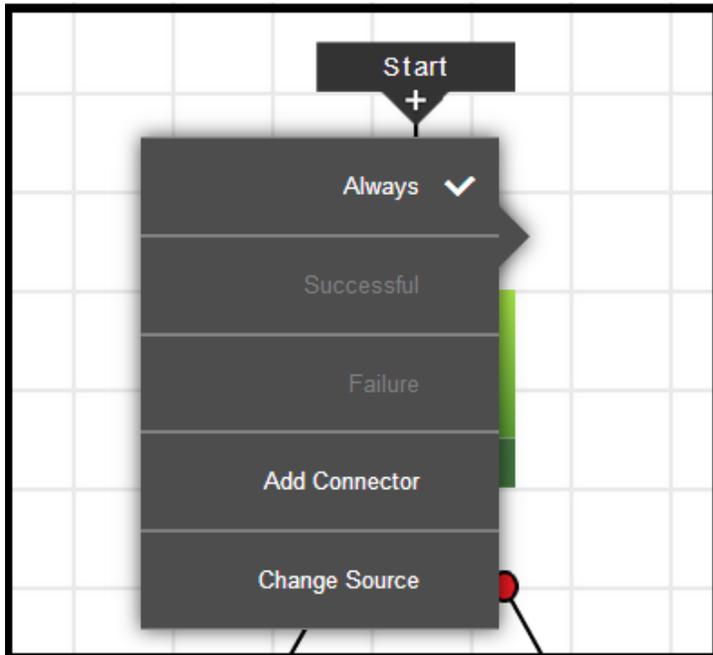
## Branching Conditions Menu

When you click a connector on a link, the branching conditions menu opens. Depending on the location of the connector, some of the menu options may not be available. These are possible branching conditions:

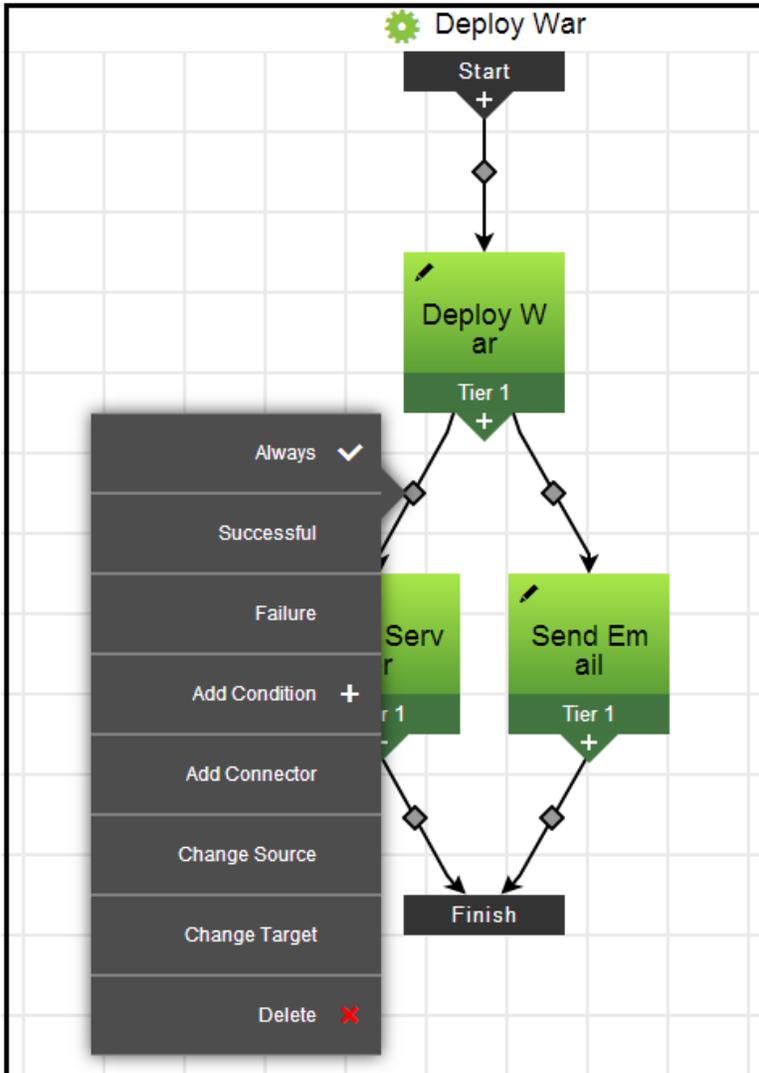
- **Always**–Always go to the next step, referred to as the target.
- **Successful**–Go to the next step if the previous step, referred to as the source, is successful.
- **Failure**–Go to the next step if the previous step fails.
- **Add Condition**–Add a custom condition.
- **Add Connector**–Add a connector from the source of the link to a new target by selecting one of the highlighted eligible steps. You can only select an eligible step.
- **Change Source**–Change the source by selecting one of the highlighted eligible steps, which has a red outline. You can only select an eligible step.
- **Change Target**–Change the target by selecting one of the highlighted eligible steps, which has a red outline. You can only select an eligible step.
- **Delete**–Delete the selected connector and link.

For example, when you select the connector between the Start and "Deploy War" steps, only some of conditions appear and only some are available. The condition between the Start and the next step is **Always**, the default branching condition.



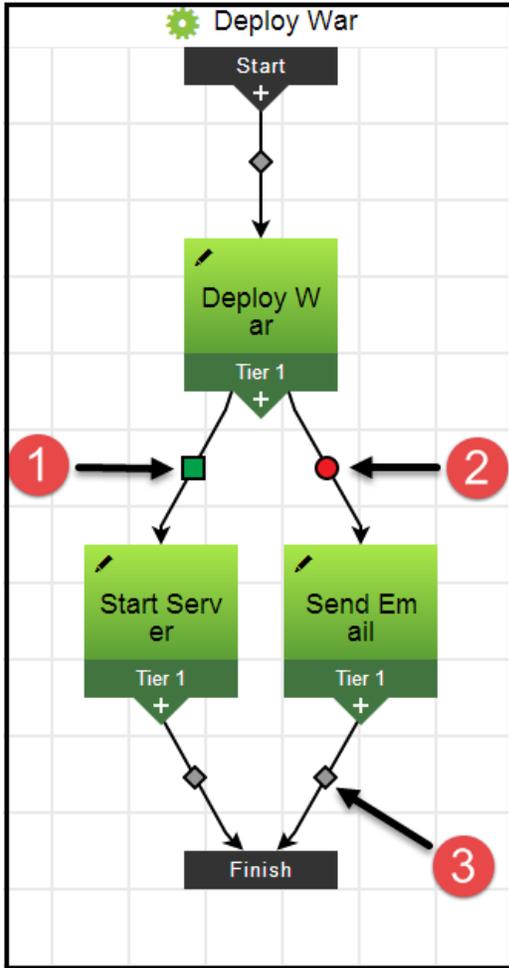


When you select the connector between the "Deploy War" and "Start Server" steps, all of these conditions appear.



## Analysis of a Process With Simple Branching

This example shows a process with simple branching that runs the War file. For the steps to design this example, see [Simple Process Branching Example](#).



1	The branching condition is <b>Successful</b> . If the War file is run successfully, the next step is Start Server.
2	The branching condition is <b>Failure</b> . If the file is not run successfully, the application fails and the next step is to send an email to the administrator.
3	The branching condition is <b>Always</b> .

The example has the following job-step branching dependencies:

Source	Target	Branching Condition
Deploy War	Start Server	Successful
Deploy War	Send Email	Failure

## Process Branching States and Conditions

### State of the Branching Condition Connectors in the UI

In the ElectricFlow UI, the status of the link is based on the shape and color of the connector.

Shape	Color	Link Status
Diamond	Light gray	Always
Diamond	Dark gray	Disabled
Square	Green	Successful
Circle	Red	Failure

### Examples of Branching Conditions

These are examples of branching conditions that you can apply in your processes.

- Based on the status of the previous step

Follow the branch based on the result of the previous step: Successful, Failure, or both (Always).

Example:

- **Successful**—If the file is downloaded successfully, the next step is to extract the files.
- **Failure**— If the file was not downloaded properly, the next step is to abort the process.
- **Always**—The next step is to always extract the files.

- Based on a value of an operation during the step

Follow the branch that matches the result of an operation such as calculating a value or processing data during the step.

Example: The result of an operation is a file type.

- If the result is an XML zip file, the next step is open an XML text editor.
- If the result is a .htm file, open a web browser.
- If the result is a .mov, open an application to play the movie.

- Based on a property in another part of the system

Follow the branch based on a property set in another part of the system, not in the previous process step.

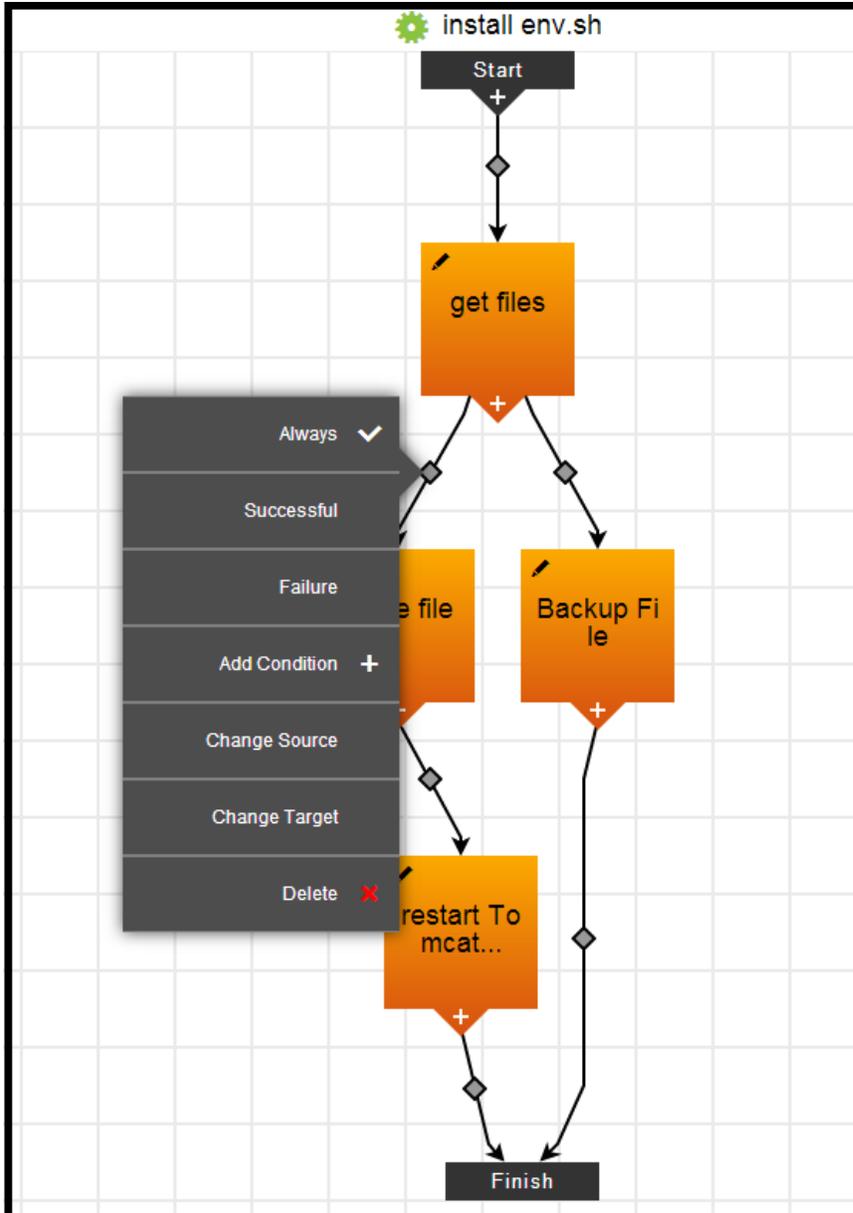
Example:

- If the property `os_type = linux` is set on a resource, always follow the branch for Linux steps.
- If the property `release_type` is set to minor in the application, always follow the branch for minor releases when running the process.

## Custom Conditions in Process Branching

**How to get here:** In a component or application process with branching, click the connector on a link to open the branching options menu.

In this example, click the connector between the "Deploy War" and "Start Server" steps, and select **Add Condition** to add a custom condition.

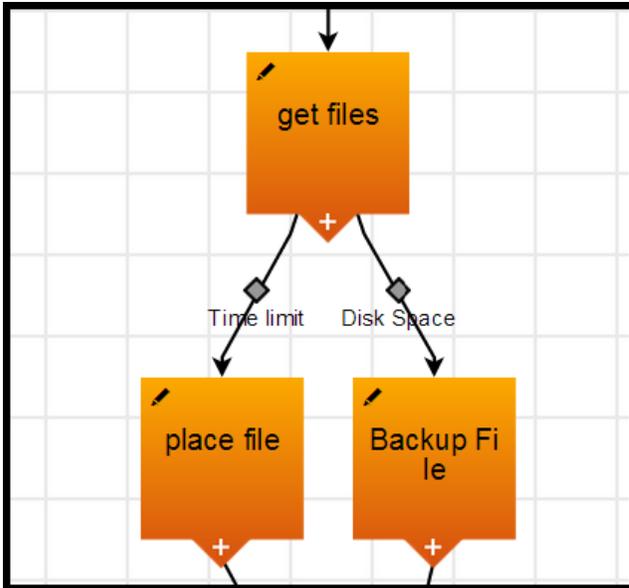


The Condition dialog box opens.

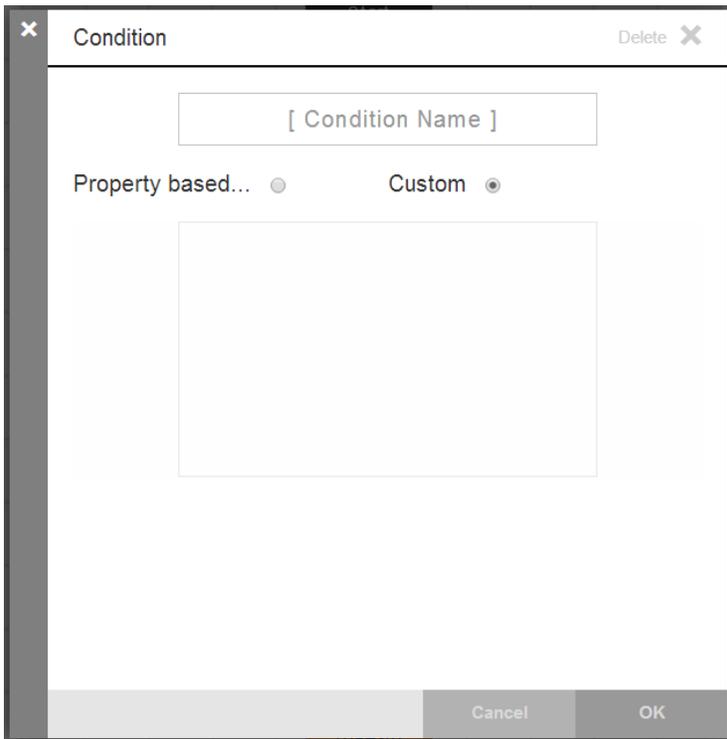
When you click the connector between the "Deploy War" and "Start Server" steps, these conditions appear:

- **Always**—Always go to the next step, referred to as the target.
- **Successful**—Go to the next step if the previous step, referred to as the source, is successful.
- **Failure**—Go to the next step if the previous step fails.
- **Add Condition**—Add a custom condition.
- **Add Connector**—Add a connector from the source of the link to a new target by selecting one of the highlighted eligible steps. You can only select an eligible step.
- **Change Source**—Change the source by selecting one of the highlighted eligible steps, which has a red outline. You can only select an eligible step.
- **Change Target**—Change the target by selecting one of the highlighted eligible steps, which has a red outline. You can only select an eligible step.
- **Delete**—Delete the selected connector and link.

After you configure your conditions, they appear near the affected connectors in the process.



When you configure a **Property based** condition, the fields in the Condition dialog box remain the same .  
When you configure a **Custom** condition, the fields change.



## Configuration Guidelines for Process Branching

Follow these guidelines when you use process branching in your application or component processes.

- When you add a step, you must define it before adding another step.
- You can only configure branching conditions on a connector between two process steps.
- You cannot configure branching conditions between these objects:
  - The start of the process and the steps immediately after it.
  - The end of the process and the steps immediately before it.
- You cannot configure branching conditions between these objects:
  - The start of the process and the steps immediately after it.
  - The end of the process and the steps immediately before it.
- When you define a step in an application or component process, you configure what ElectricFlow does when an error occurs.

Select **stop running** or **continue running** in the **On Error** field in the Define Step dialog box. *This setting overrides any job-step-level branching condition.*

If an error occurs in a job step and the **stop running** is set, ElectricFlow aborts even if the branching condition is set to Failure.

## Simple Process Branching Example

### How to get to the Application Process Designer:

- Existing application process: From the Applications Designer, click the number-and-down-arrow icon and select an application. The Application Process Designer for that application process appears.
- New application process: From the Applications Designer, click the "Add application process" icon, set the parameters in the Application Process Details dialog box, and click **OK**. The Application Process Designer for the application appears.

### How to get to the Component Process Designer:

- Existing component process: From the Applications Designer, click the "Show component process" icon, and select a component process in the drop-down list. The Component Process Designer for that component process appears.
- New component process: From the Applications Designer, click the "Add component process" icon to a component, set the parameters in the Component Process Details dialog box, and click **OK**. The Component Process Designer for the component process appears.

This example shows how to design a new process and run the War file.

- If the application succeeds, ElectricFlow starts the server.
- If the application fails, ElectricFlow sends an email to the administrator.

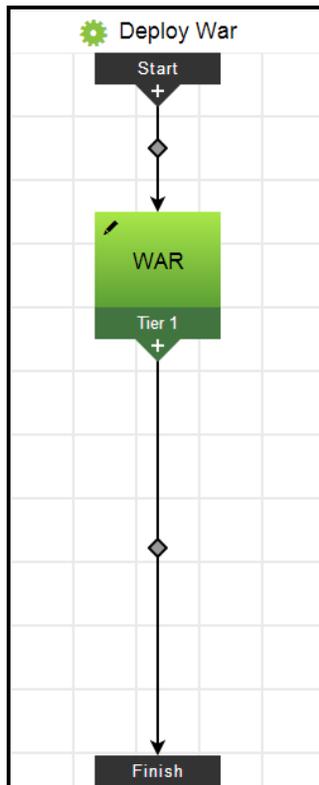
Beginning in the Application Process or Component Process Designer:

1. Click the icon below "Define this Step."

The process step dialog box appears.

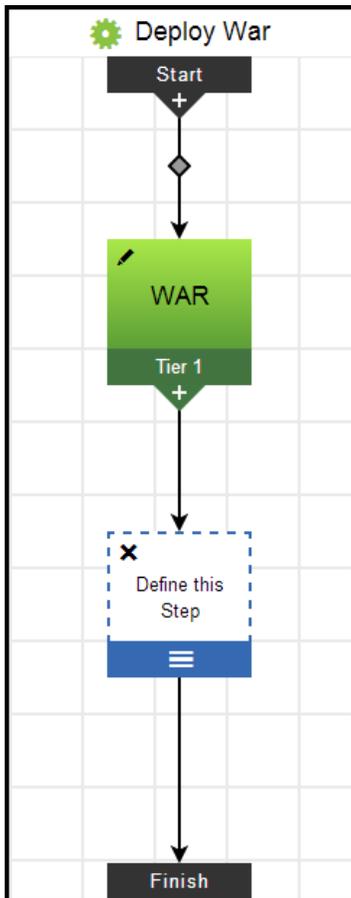
2. Configure the step.

The first step is now configured.

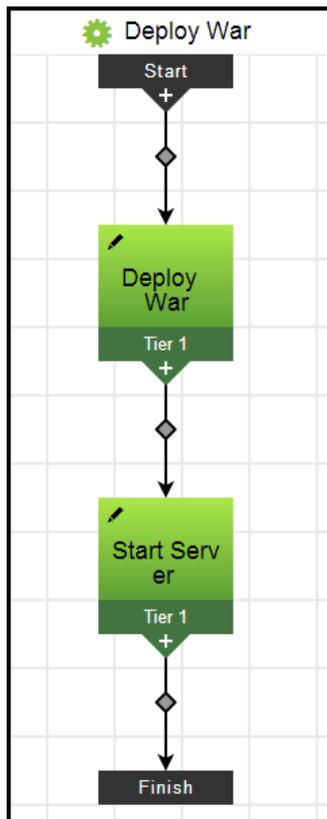


3. To add a step below the first step, click the plus sign (+) below the tier name in the first step.

A new undefined step appears below the first step.

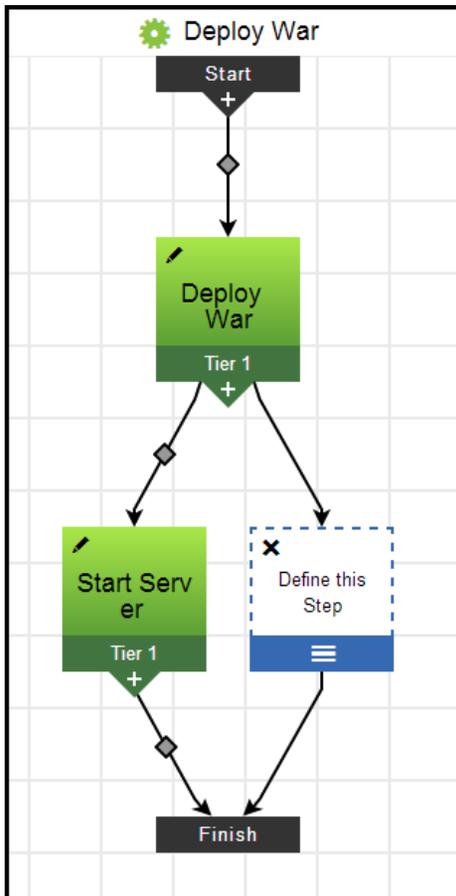


4. Define the new step.

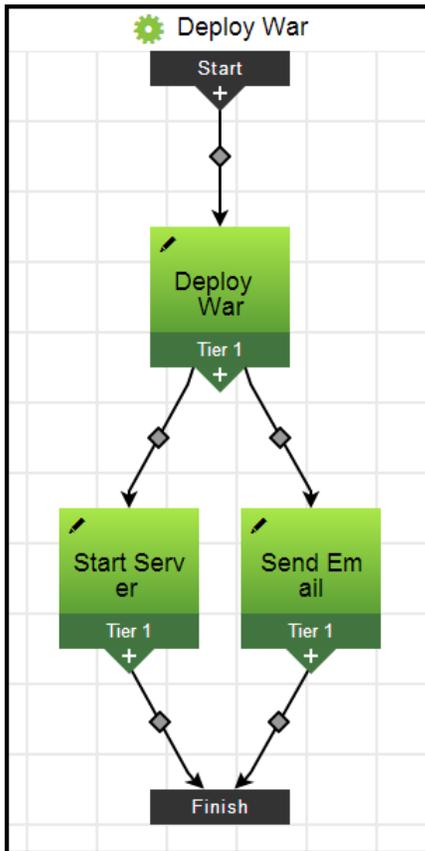


5. To add a step that will be parallel to the second step, click the plus sign in the first step.

A new undefined step appears below the first step and parallel to the second step.

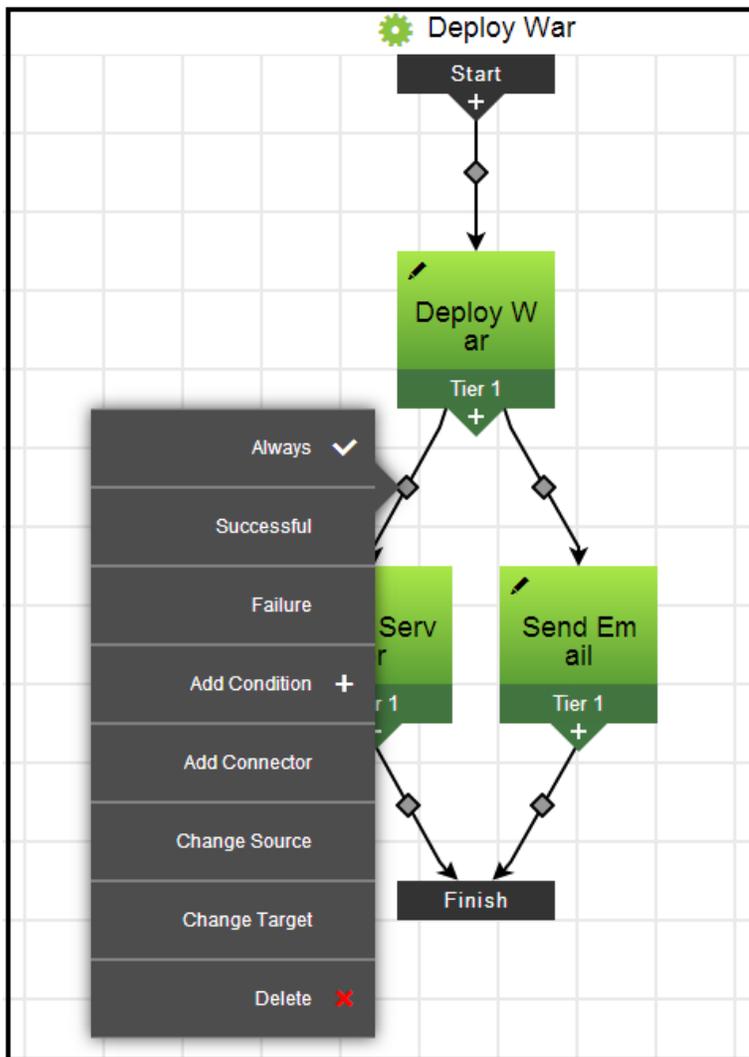


6. Define the third step.



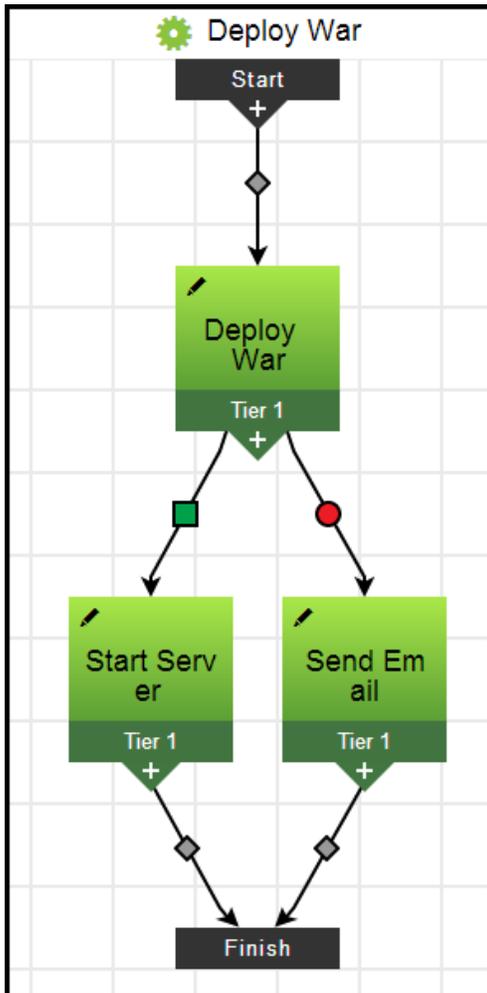
- To configure the branching condition between the "Deploy War" step and the "Start Server" step, click the connector between them.

The branching conditions menu opens.



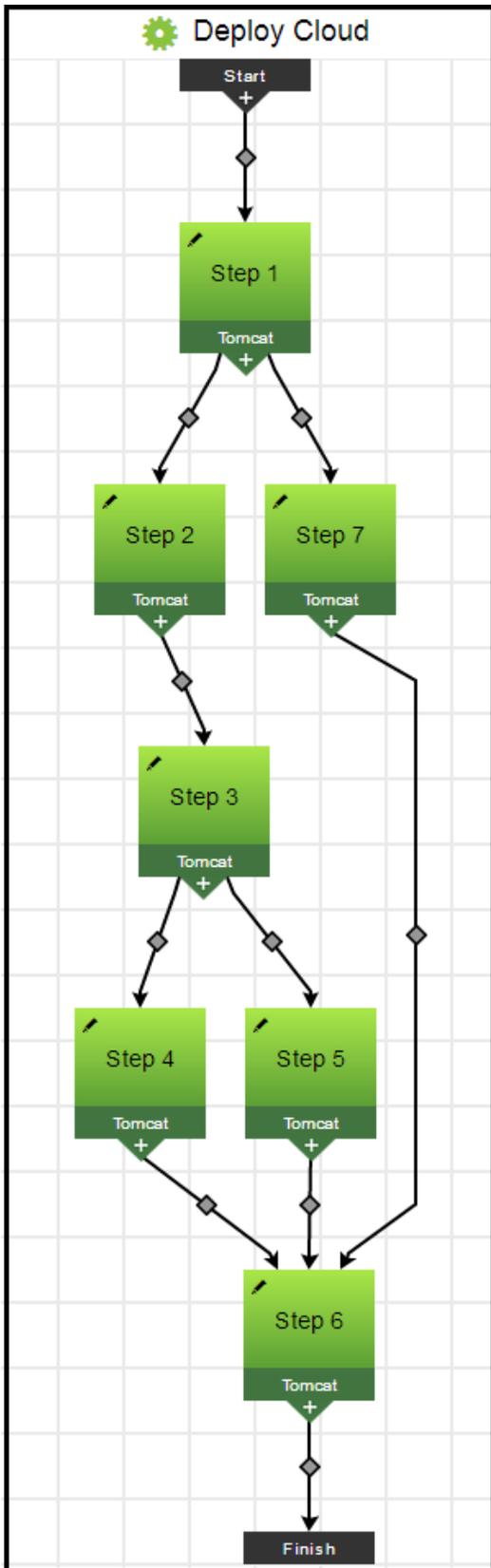
For the "Start Server" step, select **Successful**.

- To configure the branching condition between the "Deploy War" step and the "Send Email" step, click the connector between them, and select **Failure** in the branching conditions menu.



## Process Branching Example: Deleting Steps

This example shows how a process changes when you delete process steps.



### *Deleting Step 3*

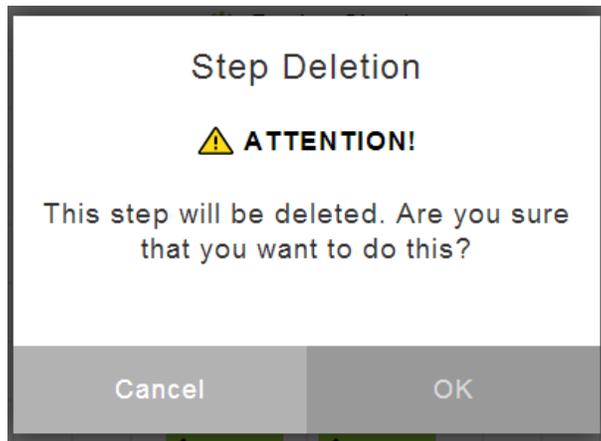
To delete Step 3:

1. Click the pencil icon on Step 3.

The step details menu appears.

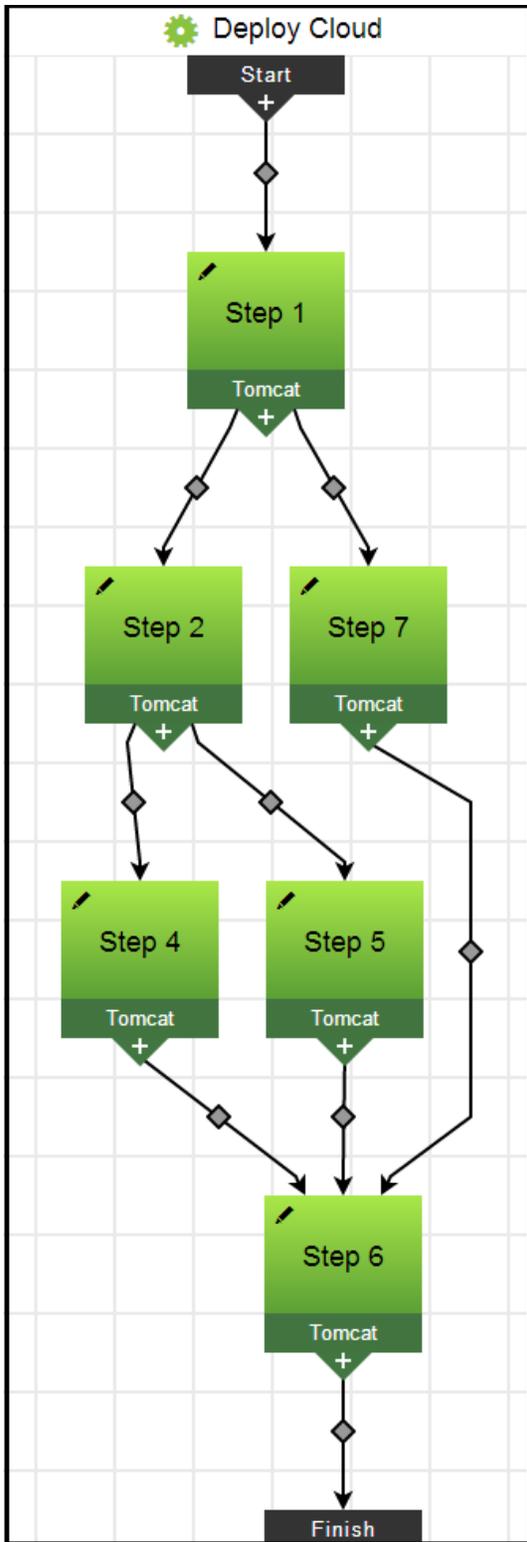
2. Click **Delete**.

The Step Deletion dialog box appears.



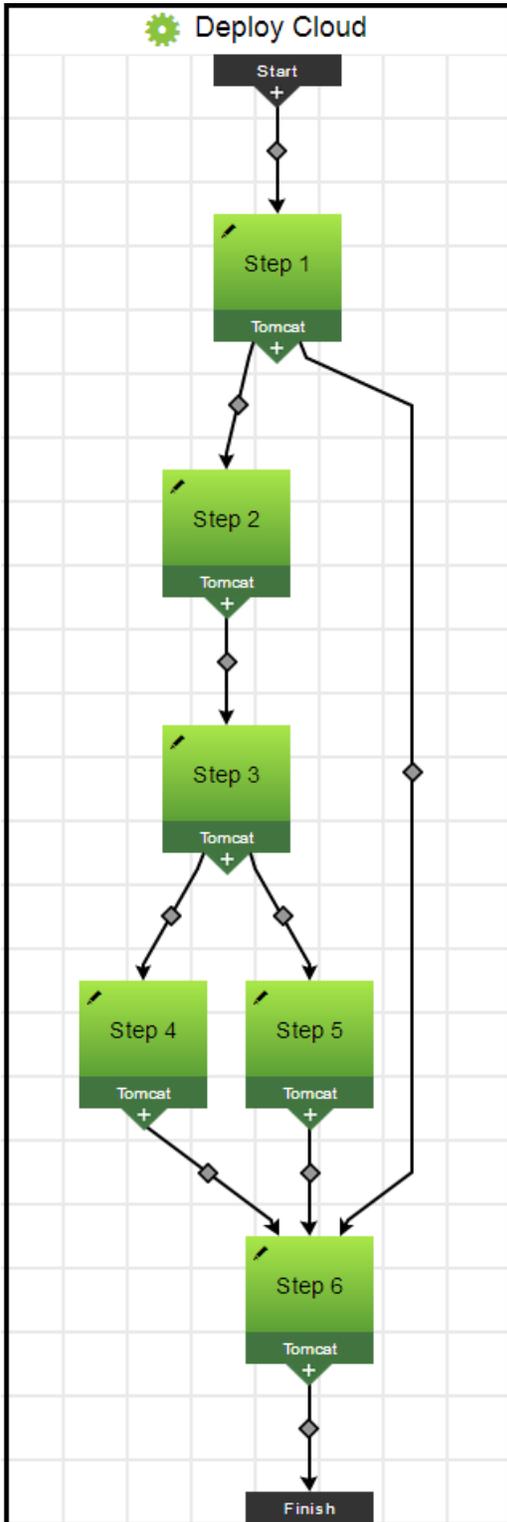
3. Click **OK** to delete the step.

When you delete Step 3, Step 2 becomes the source for Step 4 and Step 5.



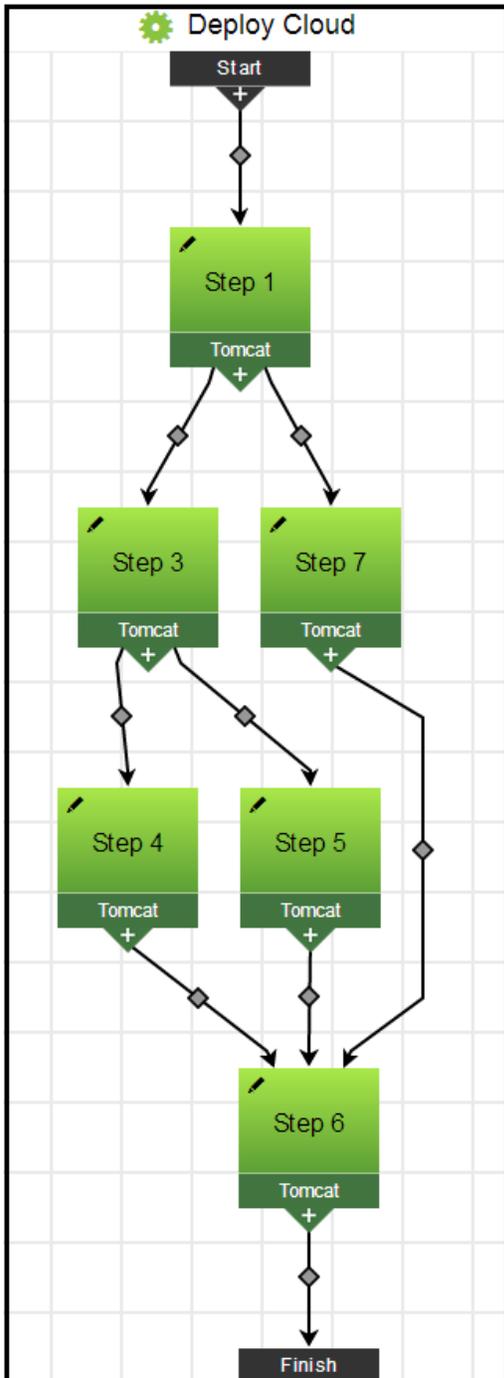
### Deleting Step 7

Step 1 becomes the source for Step 6.



## Deleting Step 2

Step 1 becomes the source for Step 3.



## Change Tracking

---

ElectricFlow tracks the changes to tracked entities in objects including applications, procedures, workflows, workspaces, resources, and project-owned components such as library components and records a *change history* of the historical states of the system and the changes between them.

Using change tracking with snapshots makes it easier to deploy reliable and repeatable software in a continuous delivery cycle.

In the Change History, you can do the following:

- When you are debugging a failed job or want to more information about a component, see the change history for the changes relevant to that object.
- When you search for specific change history records, filter the records by time frame, change type, entity type, or developer.
- Revert changes to an object or to an objects and its children.
- When you want to determine the differences between objects, export them at various levels in the object hierarchy.

## Configuring Change Tracking

Change Tracking must be enabled when ElectricFlow starts for your system to track changes and record the change history.

By default, Change Tracking is enabled.

### Enabling Change Tracking Globally

When you are installing ElectricFlow:

1. Add this line to the `database.properties` file:

```
COMMANDER_DB_AUDITING_ENABLED=true
```

2. Restart the ElectricCommander server.

### Enabling Change Tracking on a Per-Project Basis

In the ElectricCommanderUI:

Change Tracking is enabled by default on a project:

The image shows a 'New Project' dialog box with the following fields and controls:

- Name:** A text input field.
- Enable Change Tracking:** A checked checkbox, highlighted with a red border.
- Description:** A large text area.
- Default Resource:** A text input field with a 'Browse' button to its right.
- Default Workspace:** A text input field with a 'Browse' button to its right.

To disable Change Tracking, click to clear the **Enable Change Tracking** check box, and click **OK**.

In ectool:

- Enter `ectool modifyProject <projectName> --tracked true` to enable Change Tracking.
- Enter `ectool modifyProject <projectName> --tracked false` to disable Change Tracking.

In ec-perl:

- Enter `$cmdr->modifyProject(<projectName>, {tracked => true});` to enable Change Tracking.
- Enter `$cmdr->modifyProject(<projectName>, {tracked => false});` to disable Change Tracking.

## Usage Guidelines

Be aware of these known issues:

- You can ignore warnings about change tracking in the log file that start with the "Unable to safely follow an Acl parent chain upwards while trying to figure out whether to have Envers audit an Acl" string. These warnings are added to the log file when change tracking is enabled and running.
- The `beforePATH` and `afterPATH` values in the change history records for the deletion of objects are often incorrect or missing.

## Viewing the Change History

You can open and view the change history from the following objects in ElectricFlow:

- Applications List
- Applications Designer
- Application Process Designer
- Artifacts
- Component

- Component Process Designer
- Environments Designer
- Environment Tier
- Jobs
- Process Step (Application or Component)
- Projects
- Resources
- Workflows

#### Related Topics:

[Viewing the Change History from the Applications List](#)

[Viewing the Change History from the Applications List](#)

[Viewing the Change History for Artifacts, Jobs, Projects, and Workflows](#)

## Viewing the Change History from the Applications List

You may want to view the Change History for these objects in an application:

- An application process that did not run successfully

4	JPetStore	1 Component	1 Application Process	4 Tier Map				
5	Test	1 Component	1 Application Process	1 Tier Map				
	7_Proc	Proc	Env	Dec 04, 2014	11:08 Pac...	00:06	100%	
	6_Proc	Proc	Env	Dec 04, 2014	10:45 Pac...	00:07	100%	
	5_Proc	Proc	Env	Dec 04, 2014	10:12 Pac...	00:05	100%	

- Component or component process in an application process that did not run successfully

	setup database			Dec 04, 2014	10:11 Pac...	03:4...	50%	
	Create database			Dec 04, 2014	10:11 Pac...	03:4...	50%	

- Resource that was not deployed successfully

Starting from the Home page:

1. Go to the Applications List.
2. Choose an application.

3. Click the View icon.

Example:



A list of the application processes for the application appear.

4. To view the Change History of an application process:
  - a. Choose a process.
  - b. Click the Change History icon.

Example:



The Change History for the application process opens.

5. To view the change history for an object in the application process,
  - a. Click the View Details icon.

A list of objects in the application process (components and component processes) appears, and the breadcrumb changes to Applications/View Run.

- b. Choose an object.
- c. Click the Change History icon to see the Change History for the object.

## Viewing the Change History From an Application or Environment

You may want to view the Change History for these objects:

- An application in the [Application Designer](#)
- An application process and process step in the [Application Process Designer](#)
- A component process and process step in the [Component Process Designer](#)
- An environment in the [Environments Designer](#)
- Resources in the [Environment Tier](#)

### Application Designer

1. Go to the Applications List.
2. Select an application.

The Applications Designer opens.

- Click the Applications Designer menu icon.

Example:

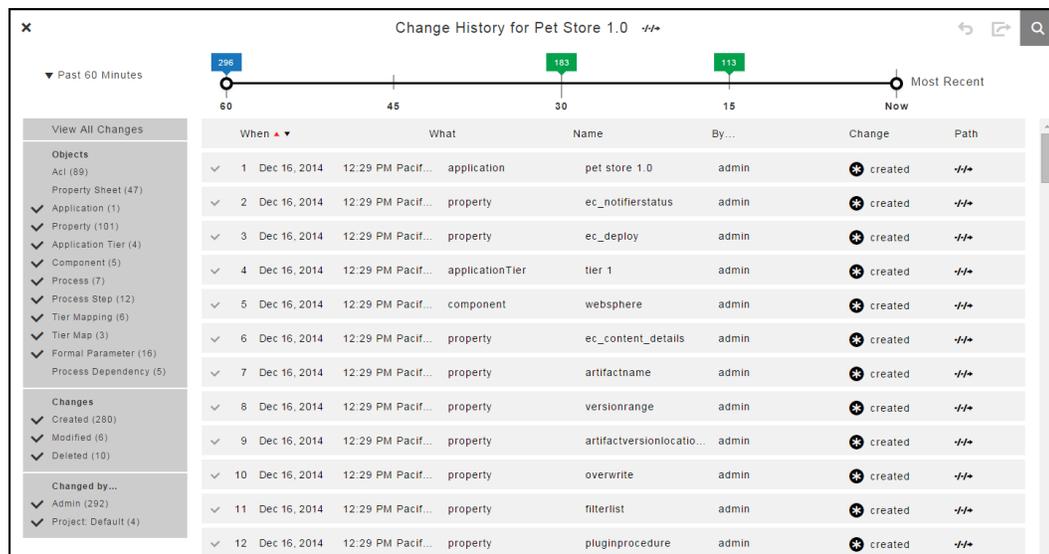


- Select **Track Changes**.

The Change History for the object opens.

The default time increment is **Past 60 Minutes**.

Example:



## Application Process Designer

- Go to the Applications List.

- Select an application.

The Applications Designer opens.

- Select an application process.

The Application Process Designer opens.

4. To view the change history for the application process:

a. Click the application process menu icon.

Example:



b. Select **Track Changes**.

The Change History for the application process opens.

The default time increment is **Past 60 Minutes**.

Example:

When	What	Name	By...	Change	Path
1 Dec 16, 2014 12:41 PM Pacif...	process	deploy	admin	created	---
2 Dec 16, 2014 12:41 PM Pacif...	property	ec_notifierstatus	admin	created	---
3 Dec 16, 2014 12:41 PM Pacif...	property	ec_deploy	admin	created	---
4 Dec 16, 2014 12:41 PM Pacif...	processStep	s1	admin	created	---
5 Dec 16, 2014 12:41 PM Pacif...	formalParameter	ec_config-version	admin	created	---
6 Dec 16, 2014 12:41 PM Pacif...	formalParameter	ec_config-run	admin	created	---
7 Dec 16, 2014 12:41 PM Pacif...	formalParameter	ec_smartdeployop...	admin	created	---
8 Dec 16, 2014 12:41 PM Pacif...	property	ec_notifierstatus	admin	created	---

5. To view the change history for the application process step:

- a. Choose a step.
- b. Click the pencil icon in the step to open the context menu.

Example:



- c. Select **Track Changes**.

The Change History for the application process step opens.

The default time increment is **Past 60 Minutes**.

Example:

When	What	Name	By...	Change	Path
1 Dec 16, 2014 12:41 PM Pacif...	processStep	s2	admin	created	/+/+
2 Dec 16, 2014 12:41 PM Pacif...	property	ec_notifierstatus	admin	created	/+/+
3 Dec 16, 2014 12:41 PM Pacif...	property	ec_deploy	admin	created	/+/+

## Component Process Designer

1. Go to the Applications List.
2. Select an application.  
The Applications Designer opens.
3. Choose a component.
4. Select a component process for the component.

The Component Process Designer opens.

5. To view the change history for the component process:

- a. Click the component process menu icon.

Example:

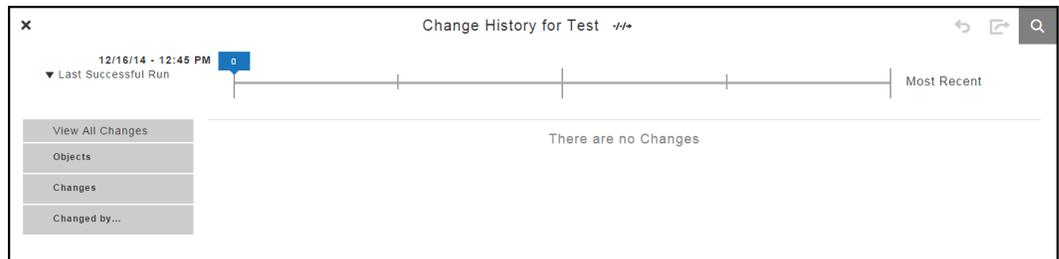


- b. Select **Track Changes**.

The Change History for the component process opens.

The default time increment is **Past 60 Minutes**.

Example:



6. To view the change history for the component process step:

- a. Choose a step.
- b. Click the pencil icon in the step to open the context menu.

Example:



- c. Select **Track Changes**.

The Change History for the component process step opens.

Example:

Change History for S1						
▼ Past 60 Minutes						
When	What	Name	By...	Change	Path	
1 Dec 16, 2014 12:33 PM Pacif...	property	artifactversionversion	admin	created	---	
2 Dec 16, 2014 12:33 PM Pacif...	processStep	s1	admin	created	---	
3 Dec 16, 2014 12:33 PM Pacif...	property	artifactname	admin	created	---	
4 Dec 16, 2014 12:33 PM Pacif...	property	compress	admin	created	---	
5 Dec 16, 2014 12:33 PM Pacif...	property	dependentartifactv...	admin	created	---	
6 Dec 16, 2014 12:33 PM Pacif...	property	excludepatterns	admin	created	---	
7 Dec 16, 2014 12:33 PM Pacif...	property	followsymlinks	admin	created	---	

## Environments Designer

1. Go to the Environments List.
2. Select an environment.

The Environments Designer opens.

3. Click the Environments Designer menu icon.

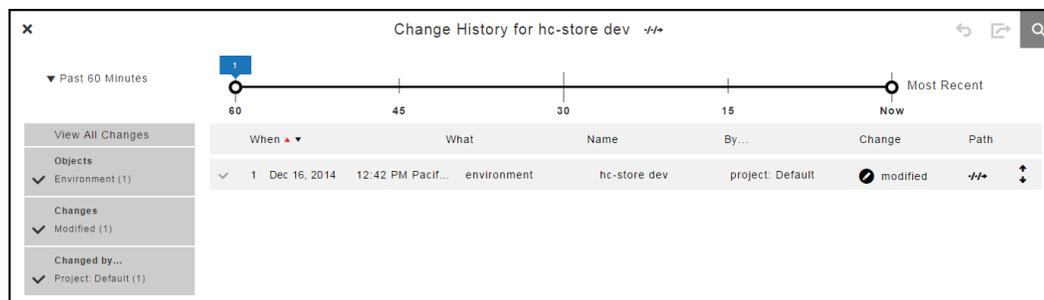
Example:



#### 4. Select **Track Changes**.

The Change History for the object opens.

Example:



## Environment Tier

1. Go to the Environments Designer.
2. Choose an environment tier.
3. Click the Environment Tier menu icon.

Example:

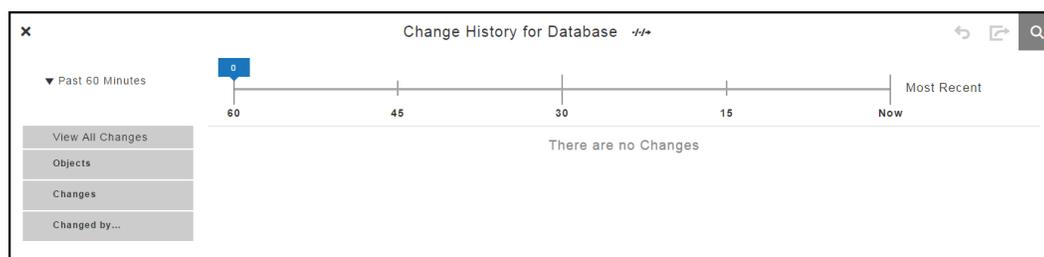


#### 4. Select **Track Changes**.

The Change History for the object opens.

The default time increment is **Past 60 Minutes**.

Example:



## Viewing the Change History for Artifacts, Jobs, Projects, and Workflows

When troubleshooting why a job failed, you can view the Change History for artifacts, jobs, projects, and workflows in the ElectricCommander platform.

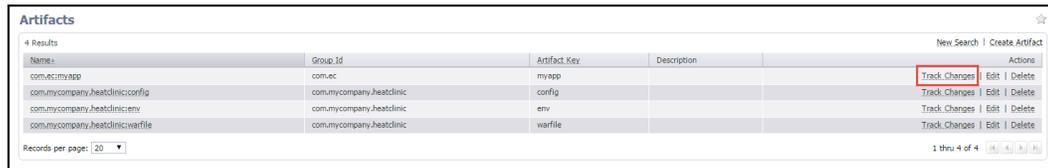
- [Artifacts](#)
- [Jobs](#)
- [Projects](#)
- [Workflows](#)

## Artifacts

Starting from the Home page:

1. Go to the Artifacts tab.
2. Choose an artifact.
3. Click **Track Changes**.

Example:

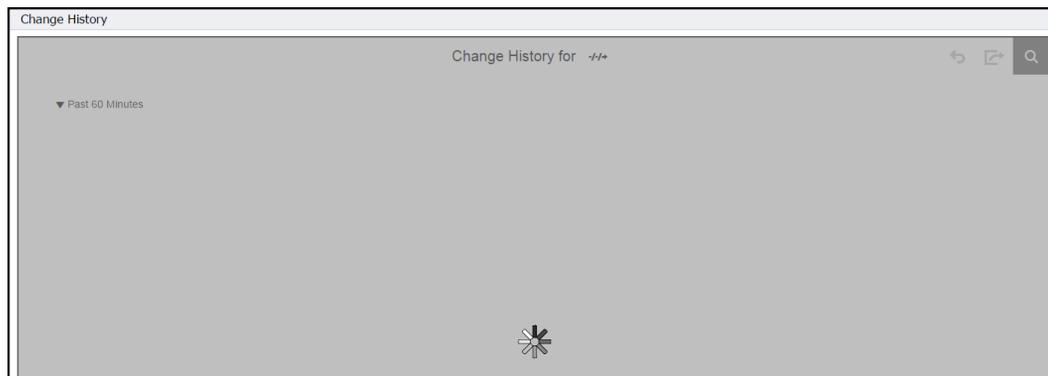


Name	Group Id	Artifact Key	Description	Actions
com.ec:myapp	com.ec	myapp		<a href="#">Track Changes</a>   <a href="#">Edit</a>   <a href="#">Delete</a>
com.mycompany.heatclinicconfig	com.mycompany.heatclinic	config		<a href="#">Track Changes</a>   <a href="#">Edit</a>   <a href="#">Delete</a>
com.mycompany.heatclinicenv	com.mycompany.heatclinic	env		<a href="#">Track Changes</a>   <a href="#">Edit</a>   <a href="#">Delete</a>
com.mycompany.heatclinicwarfile	com.mycompany.heatclinic	warfile		<a href="#">Track Changes</a>   <a href="#">Edit</a>   <a href="#">Delete</a>

The Change History for the selected artifact opens.

The default time increment is **Past 60 Minutes**.

Example:



## Jobs

Starting from the Home page:

1. To go to the Job Details page, do one of the following:

- Use the Jobs tab.
- Use the Jobs Quick View list.

2. If you use the Jobs tab, follow these steps:

a. Click the Jobs tab.

The Jobs page opens.

Example:

Job	Status	Priority	Procedure	Launched By	Elapsed Time	Start Time	Actions
1_AppProc1_ectoolApp_Default_20141216125730	Running	normal	External	admin	01:06:39.998	2014-12-16 12:57:30 PST	Abort
job_2_20141216124447	Error	normal	Default:ECMavenTest	admin	00:00:06.611	2014-12-16 12:44:47 PST	Delete
job_2_20141216124049	Success	normal	Default:ECMavenTest	admin	00:00:14.179	2014-12-16 12:40:49 PST	Delete
1_API_c_Default_20141216125925	Success	normal	External	admin	00:00:07.361	2014-12-16 12:54:25 PST	Delete
4_Test_Pet_Store_1.0_Default_20141216124537	Success	normal	External	admin	00:00:29.511	2014-12-16 12:45:37 PST	Delete
3_Test_Pet_Store_1.0_Default_20141216124427	Success	normal	External	admin	00:00:21.686	2014-12-16 12:44:27 PST	Delete
2_Test_Pet_Store_1.0_Default_20141216124339	Success	normal	External	admin	00:00:13.450	2014-12-16 12:43:39 PST	Delete
1_Test_Pet_Store_1.0_Default_20141216124244	Success	normal	External	admin	00:00:31.681	2014-12-16 12:42:44 PST	Delete
1_AppProc1_ectoolApp_Default_20141216122811	Error	normal	External	admin	00:00:06.964	2014-12-16 12:28:11 PST	Delete
1_AppProc1_ectoolApp_Default_20141216122148	Error	normal	External	admin	00:00:07.334	2014-12-16 12:11:48 PST	Delete
1_P1_Test001_Default_20141216113550	Success	normal	External	admin	00:00:08.413	2014-12-16 11:35:50 PST	Delete
2_P1_App_Default_20141216093622	Success	normal	External	admin	00:00:05.894	2014-12-16 09:36:22 PST	Delete
1_P1_App_Default_20141216093412	Success	normal	External	admin	00:00:11.546	2014-12-16 09:34:12 PST	Delete

b. Click a job name to select a job.

The Job Details page opens.

Example:

Step Name	Log	Status	Elapsed Time	Resource	Actions
AppStep1		Completed with Errors	00:00:02.556		Track Changes
ComposeStep1		Completed with Errors	00:00:02.556		Track Changes
local copy		Completed with Errors	00:00:02.556		Track Changes
Retrieve Artifact		1 error	00:00:02.996	local copy	Track Changes   Edit

- If you use the Jobs Quick View list, click a job name to select a job.

Example:

Jobs Quick View			<a href="#">Add Category</a>
Last 10 Jobs			<a href="#">Modify</a>   <a href="#">Delete</a>
<a href="#">job_3_20141216134447</a>	❌ Error	00:00:06.611	<a href="#">Details</a>
<a href="#">job_2_20141216134049</a>	✅ Success	00:00:14.179	<a href="#">Details</a>
<a href="#">1_AppProc1_ectoolApp_Default_20141216125730</a>	🔄 Running	01:12:37.903	<a href="#">Details</a>
<a href="#">1_AP1_c_Default_20141216125425</a>	✅ Success	00:00:07.361	<a href="#">Details</a>
<a href="#">4_Test_Pet_Store_1.0_Default_20141216124537</a>	✅ Success	00:00:29.511	<a href="#">Details</a>
<a href="#">3_Test_Pet_Store_1.0_Default_20141216124427</a>	✅ Success	00:00:21.686	<a href="#">Details</a>
<a href="#">2_Test_Pet_Store_1.0_Default_20141216124339</a>	✅ Success	00:00:13.450	<a href="#">Details</a>
<a href="#">1_Test_Pet_Store_1.0_Default_20141216124244</a>	✅ Success	00:00:31.681	<a href="#">Details</a>
<a href="#">1_AppProc1_ectoolApp_Default_20141216122811</a>	❌ Error	00:00:06.964	<a href="#">Details</a>
<a href="#">1_AppProc1_ectoolApp_Default_20141216121148</a>	❌ Error	00:00:07.334	<a href="#">Details</a>

The Job Details page opens.

Example:

Job Details - 1_AppProc1_ectoolApp_Default_20141216122811						<a href="#">Track Changes</a> <a href="#">Run Again</a> <a href="#">Delete</a> <a href="#">Access Control</a> <a href="#">View Log</a> <a href="#">9/24</a>
<b>Completed with Errors</b> Start Time: 2014-12-16 12:28:11 PST Elapsed Time: 00:00:06.964			<b>General Information</b> Project: Default Procedure: External Launched by: admin Priority: normal			
<b>Steps</b>   <a href="#">Diagnostics</a>   <a href="#">Parameters</a>   <a href="#">Properties</a>   <a href="#">Notifiers</a>   <a href="#">Published Artifact Versions</a>   <a href="#">Retrieved Artifact Versions</a>						
View: All <span style="float: right;">Expand All   Collapse All</span>						
Step Name	Log	Status	Elapsed Time	Resource	Actions	
AppStep1		❌ Completed with Errors	00:00:02.556		<a href="#">Track Changes</a>	
CompStep1		❌ Completed with Errors	00:00:02.556		<a href="#">Track Changes</a>	
local_copy		❌ Completed with Errors	00:00:02.556		<a href="#">Track Changes</a>	
Retrieve Artifact	<a href="#">Log</a>	❌ 1 error	00:00:02.596	local_copy	<a href="#">Track Changes</a>   <a href="#">Edit</a>	
Records per page: 100 <span style="float: right;">1 thru 4 of 4</span>						

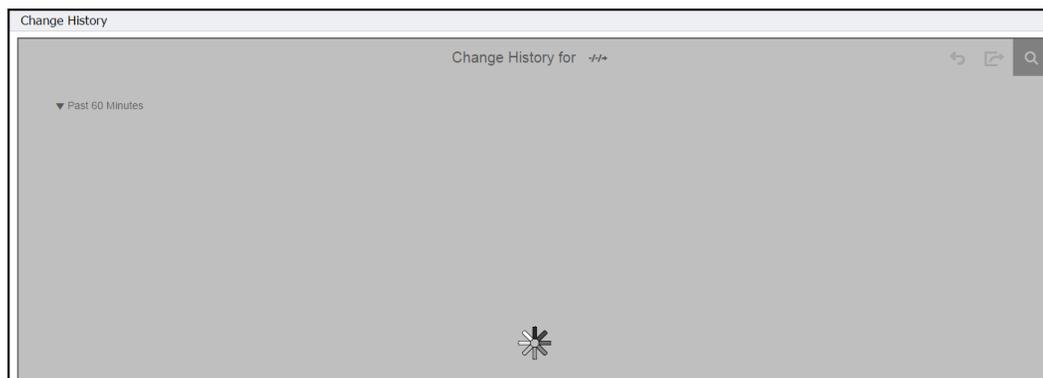
- Choose a job or job step.

- Click **Track Changes** for the job or job step.

The Change History for the job or job step opens.

The default time increment is **Past 60 Minutes**.

Example:



## Projects

Starting from the Home page:

- Go to the Projects tab.
- Choose a project.
- Click **Track Changes**.

The Change History for the project opens.

Example:

Projects				[All Projects]   Create Project   New Search	
Project	Description	Impersonation Credential	Create Date	Track Changes	Actions
Default	Default project created during installation.		2014-12-16 07:51:36 PST	Track Changes	Edit   Copy   Delete
DisplayObjects-1.7.8			2014-12-16 08:11:15 PST	Track Changes	Edit   Copy   Delete
EC-Examples	This project contains templates for procedures that perform basic tasks within ElectricCommander.		2014-12-16 07:52:07 PST	Track Changes	Edit   Copy   Delete
EC-Tutorials-1.0.0.69504	This project contains small pieces of code which show how to use features in ElectricCommander.		2014-12-16 08:03:02 PST	Track Changes	Edit   Copy   Delete
EC-Utilities	This project contains procedures that perform basic tasks within ElectricCommander. Also, the procedures can be used as examples that can be copied and modified in another project.		2014-12-16 07:55:07 PST	Track Changes	Edit   Copy   Delete
Electric.Cloud	Electric Cloud Procedures		2014-12-16 07:58:38 PST	Track Changes	Edit   Copy   Delete

Records per page: [20] | 1 thru 6 of 6

## Workflows

Starting from the Home page:

- Go to the Workflows tab.
- Choose a workflow.
- Click **Track Changes**.

The Change History for the workflow opens.

## Modifying the Change History

You can modify the information that appears in the Change History with these settings:

- Time increment—Go to [Change History Time Line](#).
- Time line—Go to [Change History Time Line](#).
- Filters—Go to [Change History Filters](#).

### Related Topics:

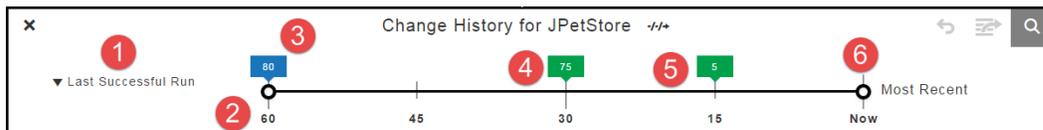
[Change History Page](#)

[Change History Page](#)

## Change History Time Line

The time line is at the top of the Change History page.

This example shows the following information about the object called JPetStore.



1	<p>Time increment. The default is <b>Last Successful Run</b>. Click the down arrow to select another time increment:</p> 
2	<p>The system automatically calculates the minutes, hours, and days since the last successful run. In the example, the last successful run occurred 60 minutes ago. The time line is divided into four 15-minute subdivisions.</p>
3	<p>Total number of changes in the selected time increment.</p>
6	<p>The number of changes that occurred from 30 minutes ago to now is 75.</p>

4	Filters for the change history. You can view all changes or view only selected changes. The objects in the list are the objects in the change history search results.
5	When you click the change number, the Change History is updated and shows only those changes.
6	Drag the start and end time markers to view specific changes.

### Default Settings

The default time increment is **Last Successful Run**.

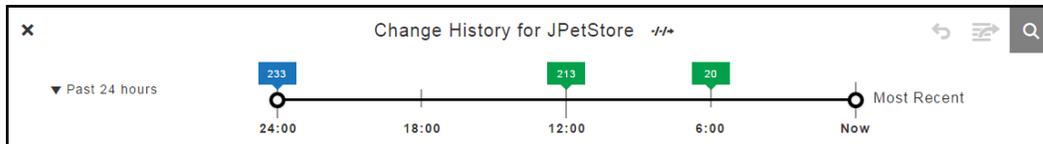
**Note:** The **Last Successful Run** option is available only after the first time that you run an application.

The entire time line is displayed, and all the changes are in the list below the time line.

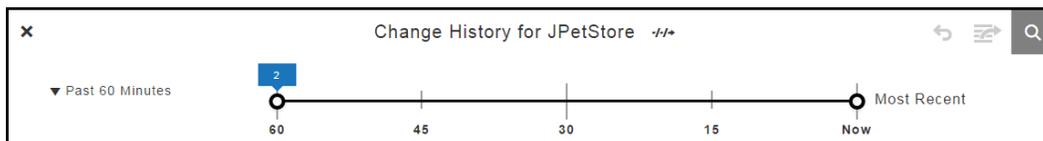
### Number of Changes

The time line shows the number of changes throughout the time increment. In the following example:

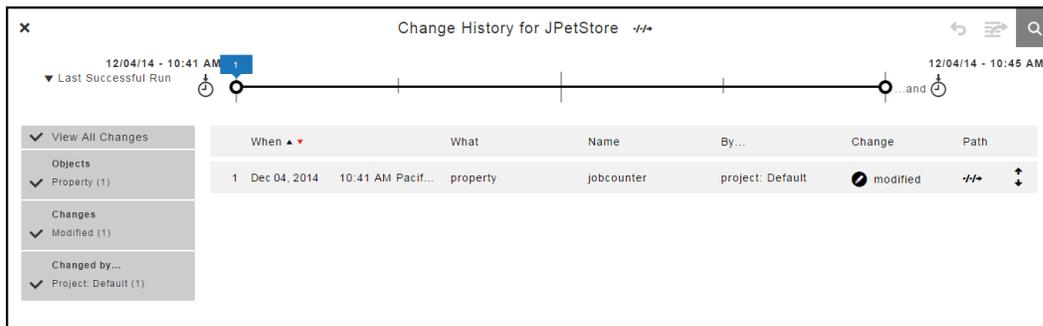
- There have been 233 changes in the last 24 hours.
- There have been 213 changes in the last 12 hours.
- There have been 20 changes in the last 6 hours.



When you change the time increment, there have been two changes in the previous 60 minutes.



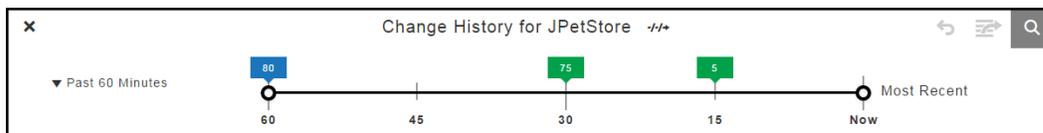
## Time Increment



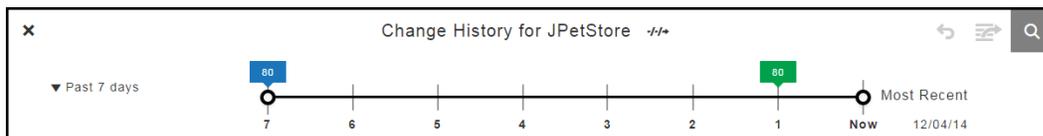
The system automatically determines how the time line is divided for the selected time increment.

When the range is changed to **Past 60 Minutes**, the time line changes:

- The start time is 60 minutes from **Now**.
- The end time is when the **Most Recent** change occurred (**Now**).
- The time line has four divisions.



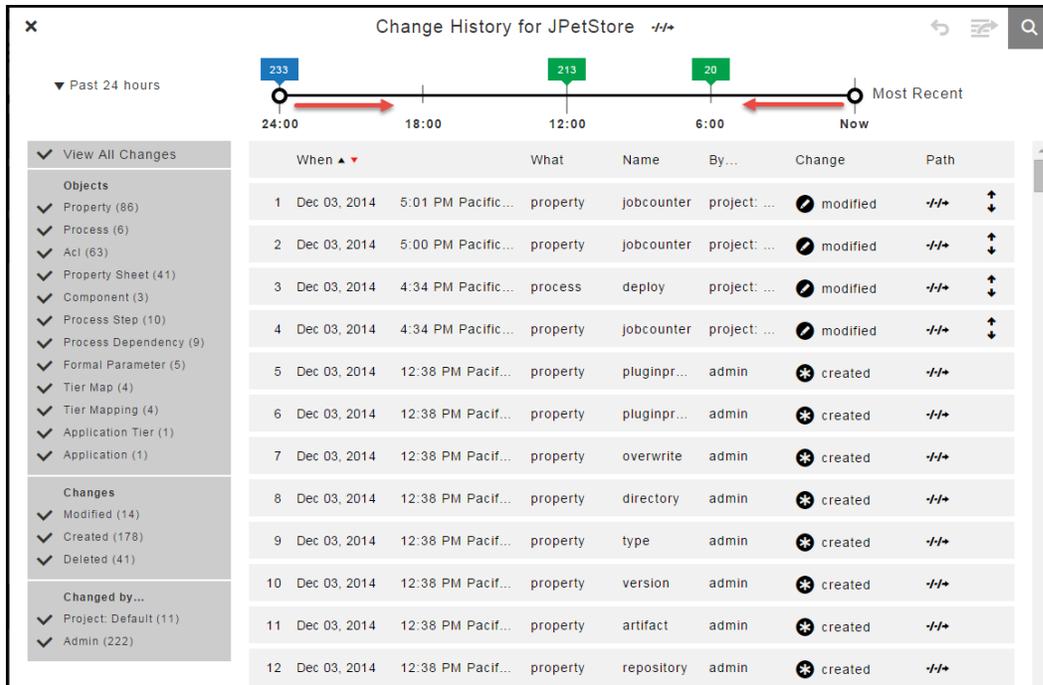
If the increment is **Past 7 Days**, the time line has seven one-day divisions.



## Moving the Start and End Times Manually

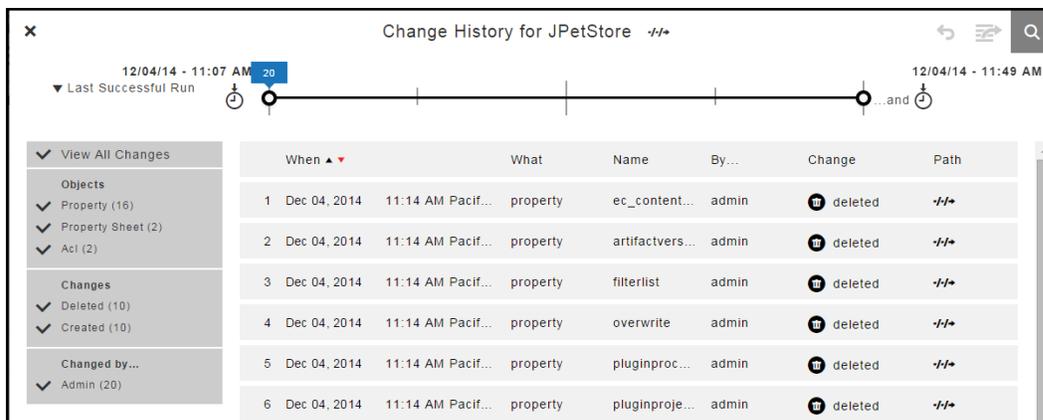
You can manually move the start and end times on the time line.

When you move the start time to 18:00 and the end time to 6:00, the list of objects in the change history changes.



## Setting Custom Time Increments

Example:

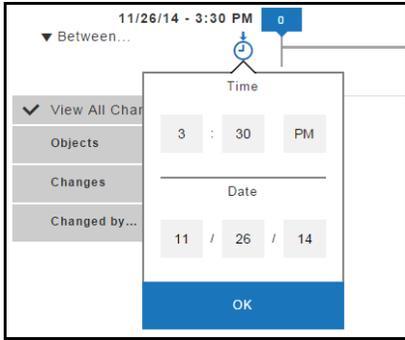


To set other time increments, use the **Between** option:

1. Select **Between**.

A drop down dialog box opens.

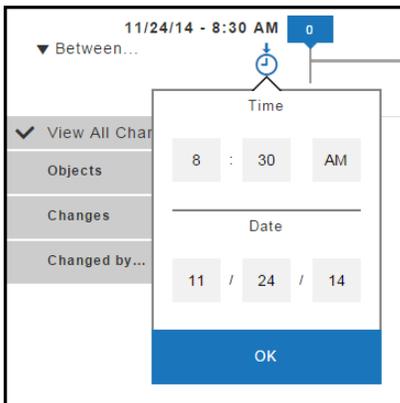
Example:



2. Select the time and date for the start of the time line.

The default settings are **3:30 PM** and eight days before the current date.

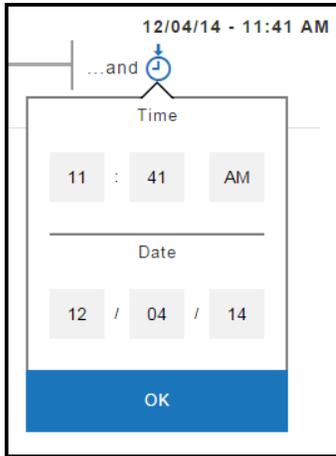
Example:



3. Click **OK**.

A drop down dialog box opens at the other end of the time line.

Example:

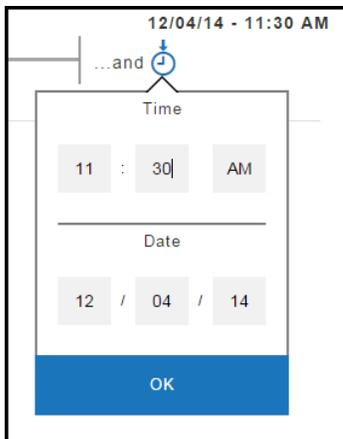


The screenshot shows a dialog box titled "12/04/14 - 11:41 AM". At the top, there is a label "...and" followed by a clock icon. Below this, the word "Time" is centered. The time is displayed as "11 : 41 AM" with each component in a separate box. A horizontal line separates the time section from the date section, which is labeled "Date". The date is displayed as "12 / 04 / 14" with each component in a separate box. At the bottom of the dialog is a blue button labeled "OK".

4. Select the time and date for the end of the time line.

The defaults are **3:30 PM** and the current date.

Example:



The screenshot shows a dialog box titled "12/04/14 - 11:30 AM". At the top, there is a label "...and" followed by a clock icon. Below this, the word "Time" is centered. The time is displayed as "11 : 30 AM" with each component in a separate box. A horizontal line separates the time section from the date section, which is labeled "Date". The date is displayed as "12 / 04 / 14" with each component in a separate box. At the bottom of the dialog is a blue button labeled "OK".

5. Click **OK**.

The time line changes to show only the changes from the start and end times and dates that you selected.

Example:

When	What	Name	By...	Change	Path
1 Dec 04, 2014 10:28 AM Pacif...	acl	jpetstore	admin	* created	-/-/
2 Dec 04, 2014 10:28 AM Pacif...	acl	jpetstore	admin	* created	-/-/
3 Dec 04, 2014 10:28 AM Pacif...	propertySh...	jpetstore	admin	* created	-/-/
4 Dec 04, 2014 10:28 AM Pacif...	propertySh...	ec_deploy	admin	* created	-/-/
5 Dec 04, 2014 10:28 AM Pacif...	application	jpetstore	admin	* created	-/-/
6 Dec 04, 2014 10:28 AM Pacif...	property	ec_notifier...	admin	* created	-/-/
7 Dec 04, 2014 10:28 AM Pacif...	property	ec_deploy	admin	* created	-/-/
8 Dec 04, 2014 10:28 AM Pacif...	acl	ec_deploy	admin	* created	-/-/
9 Dec 04, 2014 10:28 AM Pacif...	acl	apptier	admin	* created	-/-/
10 Dec 04, 2014 10:28 AM Pacif...	propertySh...	apptier	admin	* created	-/-/
11 Dec 04, 2014 10:28 AM Pacif...	acl	apptier	admin	* created	-/-/

## Change History Filters

You can use filters to view changes to specific objects, the types of changes, and the users who made those changes.

Instead of selecting **View All Changes**, you can select specific objects, such as only properties, processes, property sheets, process steps, and process dependencies that have been modified by the Project:Default and Admin users.

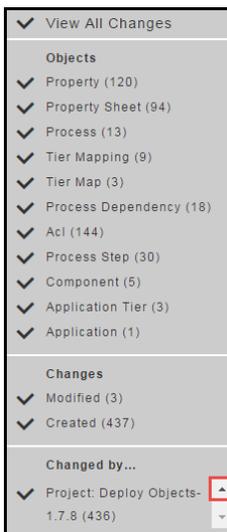
When	What	Name	By...	Change	Path
1 Dec 03, 2014 4:34 PM Pacific...	property	jobcounter	project: ...	modified	-/-/ ↑↓
2 Dec 03, 2014 4:34 PM Pacific...	process	deploy	project: ...	modified	-/-/ ↑↓
3 Dec 03, 2014 11:35 AM Pacif...	process	deploy	admin	modified	-/-/ ↑↓

When the list of filter criteria is long, not all of the criteria may appear in the filter list. To see all of the criteria, use the up or down arrows to see all the options.

This list does not show all of the users. Use the up and down arrows to see all four of the users.



Click the down arrow to see the other users.



## Reverting and Exporting Changes to Objects

Starting in ElectricFlow 5.3, you can revert or exporting changes that were made to an object and to an objects and its children.

Follow these steps to select the changes that you want to revert:

1. Go to the Change History.
2. Configure the filters to view specific changes in the Change History.

If View All Changes is selected, click it to remove the check mark next to it.

Select only the objects, change types, and the users or groups who made the changes. A check mark appears next to the filter criteria that you select.

While selecting changes, make sure to be aware of the number of changes.

3. Choose an object in the Change History.
4. Click the View icon to view the change details.

Example:



This information appears:

- Name of the child object (**Column Changed**)
- State of the child object before the change (**From**)
- State of the child object after the change (**To**)
- Current state of the child object (**Current state**).

Example:

When	What	Name	By...	Change	Path
1 Dec 17, 2014 1:37 PM Pacific...	emailNotifier	notifier for jennifer	admin	modified	↔
2 Dec 17, 2014 1:37 PM Pacific...	emailNotifier	notifier for jennifer	admin	modified	↔

Column Changed	From ...	To ...	Current state
1. destinations	JohnDoe@electric-cloud.com	doejane@electric-cloud.com	JohnDoe@electric-cloud.com

5. Choose a change to revert.

6. In the **To** column, select the row of the object that you want to revert.

Example:

Column Changed	From...	To...	Current state
1. destinations	johndoe@electric-cloud.com	doejane@electric-cloud.com	johndoe@electric-cloud.com

The Revert button is now available (enabled).

Example:



The Export changes button is now available (enabled).

Example:



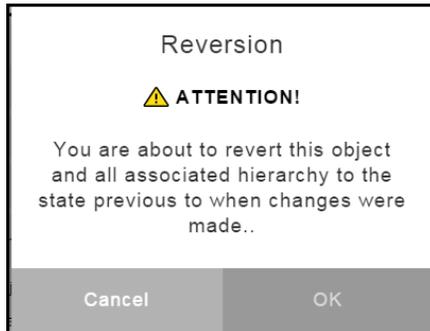
Repeat this step for each change that you want to revert or export.

7. To revert the changes, do the following steps:

- a. Click the Revert button.

A message confirming that you want to revert the selected object appears.

Example:



- b. If you want to revert the selected changes, click **OK**.

If the changes are successfully reverted, a message that the current state of the selected objects are successfully reverted appears.

If the changes are not successfully reverted, a message that the current state of the selected objects are not successfully reverted appears.

- c. If you do not want to revert the selected changes, click **Cancel**.

8. Click the Export changes button to export the changes to an XML file.

## Searching Through the Change History

Use one of these methods to search through the change history:

- [Running a New Search Through the Change History in the ElectricCommander Platform UI](#)
- [Searching Through the Change History From an Existing Change History](#)

## Running a New Search Through the Change History

Follow these steps to start a search through the Change History.

Starting from the Home page:

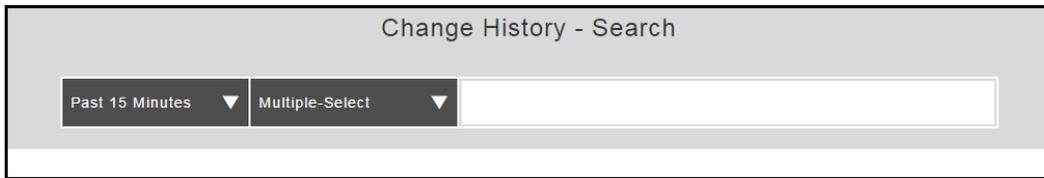
1. Click the Search icon.

Example:



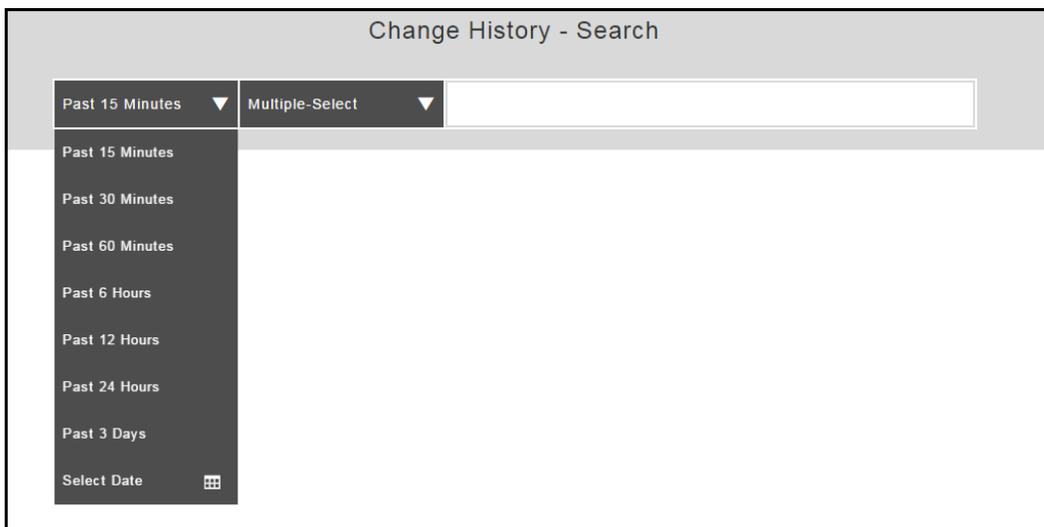
The Change History - Search dialog box opens.

Example:



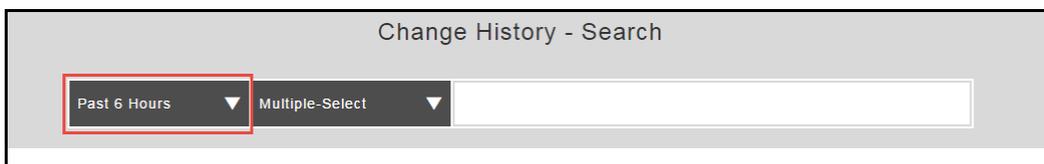
2. Click the down arrow in the Time Increment field to open the drop-down list.

Example:



3. Select a time increment.

Example:



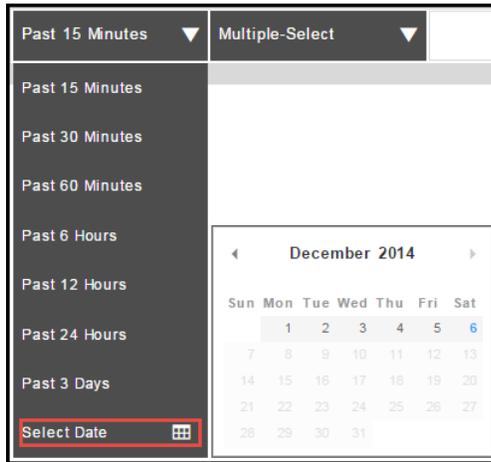
If you want to select a time increment longer than three days, go to the next step.

4. (Optional) If you want to use a time increment longer than three days, do the following:

- a. Click **Select Date**.

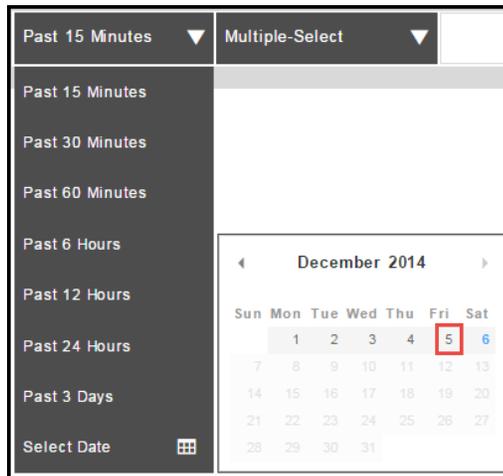
The Date Picker opens.

Example:



b. Select a date.

Example:



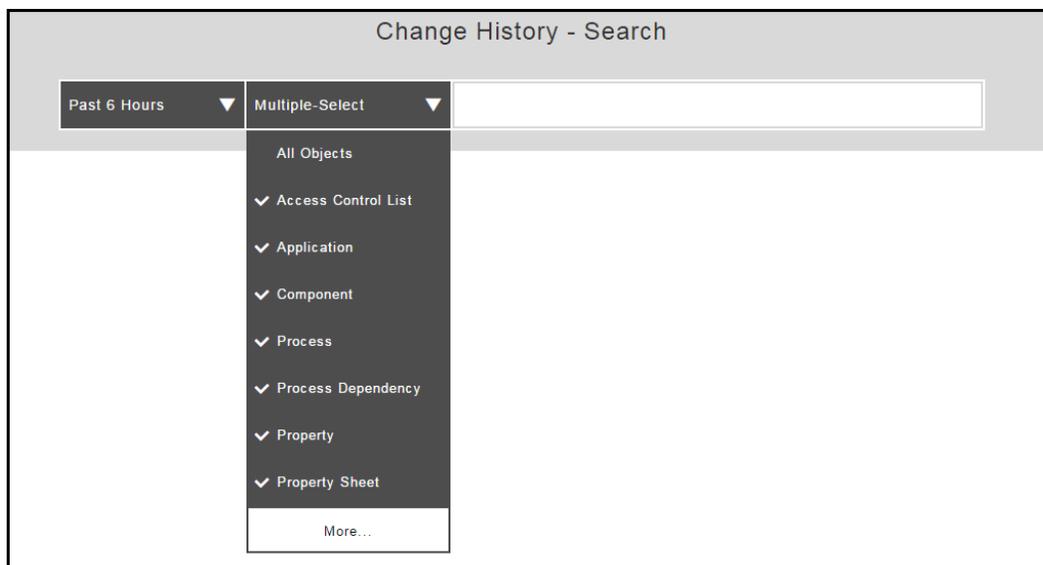
The Date Picker closes and the date that you selected appears in the Time Increment field.

Example:



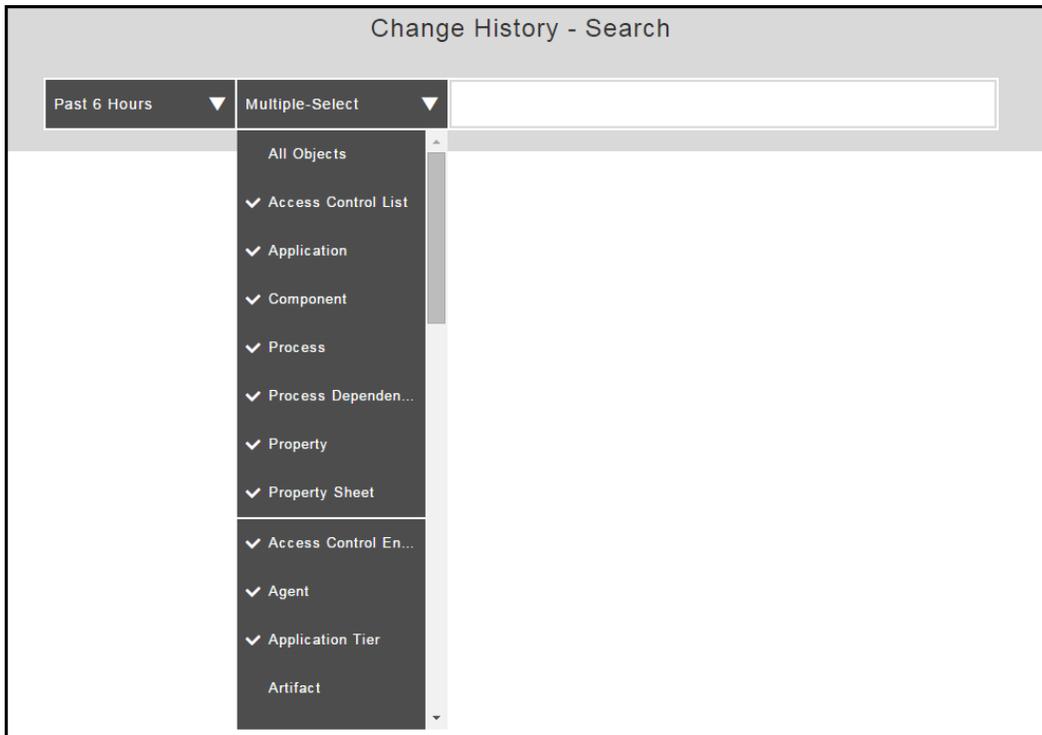
5. Click **Multiple Select** to open the drop-down list of tracked objects.

Example:



6. Select the objects to include in the Change History.

Example:

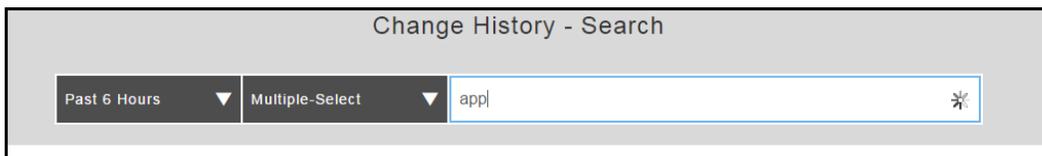


7. Enter the search criteria.

As you type, the system starts to search for objects that match your search criteria.

A list of objects matching your search criteria appears in the results section.

Example:



## 8. Select an object in the list.

Example:

Change History - Search

Past 6 Hours Multiple-Select

Process Dependency	7b1b12ad-7b1c-11e4-a...	/projects/Default/applications/JPetStore/processes/deploy/proc...
ec_deploy		/projects/Default/applications/JPetStore/processes/deploy/proc...
s2		/projects/Default/applications/Test/components/Comp/processe...
ec_acm-run		/projects/Default/applications/JPetStore/processes/deploy/form...
s2		/projects/Default/applications/Test/components/Comp/processe...
<b>jpetstore</b>		<b>/projects/Default/applications/jpetstore</b>
jpetstore		/projects/Default/applications/jpetstore
ec_deploy		/projects/Default/applications/JPetStore/processes/deploy/proc...
deploy		/projects/Default/applications/JPetStore/processes/deploy
ec_notifierstatus		/projects/Default/applications/JPetStore/processes/deploy/proc...
s2		/projects/Default/applications/Test/components/Comp/processe...
jobcounter		/projects/Default/applications/JPetStore/jobcounter
ec_deploy		/projects/Default/applications/JPetStore/processes/deploy/proc...
ec_acm-version		/projects/Default/applications/JPetStore/processes/deploy/form...

The change history for the object that you selected appears.

Example:

Change History for JPetStore

Past 60 Minutes

1

Most Recent

When	What	Name	By...	Change	Path
1 Dec 03, 2014 4:34 PM Pacific...	property	jobcounter	project: ...	modified	...
2 Dec 03, 2014 4:34 PM Pacific...	process	deploy	project: ...	modified	...
3 Dec 03, 2014 12:38 PM Pacif...	property	pluginpr...	admin	created	...
4 Dec 03, 2014 12:38 PM Pacif...	property	pluginpr...	admin	created	...
5 Dec 03, 2014 12:38 PM Pacif...	property	overwrite	admin	created	...
6 Dec 03, 2014 12:38 PM Pacif...	property	directory	admin	created	...
7 Dec 03, 2014 12:38 PM Pacif...	property	type	admin	created	...
8 Dec 03, 2014 12:38 PM Pacif...	property	version	admin	created	...
9 Dec 03, 2014 12:38 PM Pacif...	property	artifact	admin	created	...
10 Dec 03, 2014 12:38 PM Pacif...	property	repository	admin	created	...
11 Dec 03, 2014 12:38 PM Pacif...	property	server	admin	created	...
12 Dec 03, 2014 12:38 PM Pacif...	property...	ec_conte...	admin	created	...
13 Dec 03, 2014 12:38 PM Pacif...	acl	ec_conte...	admin	created	...

View All Changes

Objects

- Property (43)
- Process (2)
- Property Sheet (20)
- AcI (27)
- Component (1)
- Process Step (6)
- Process Dependency (8)

Changes

- Modified (6)
- Created (60)
- Deleted (41)

Changed by...

- Project: Default (2)
- Admin (105)

# Running a New Search Through the Change History in the ElectricCommander Platform UI

Follow these steps to start a search through the Change History.

In the ElectricCommander platform:

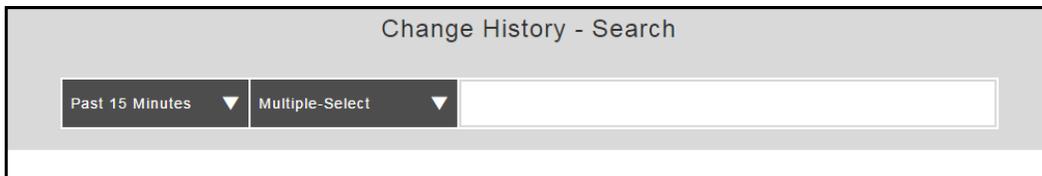
1. Click **Change History**.

Example:



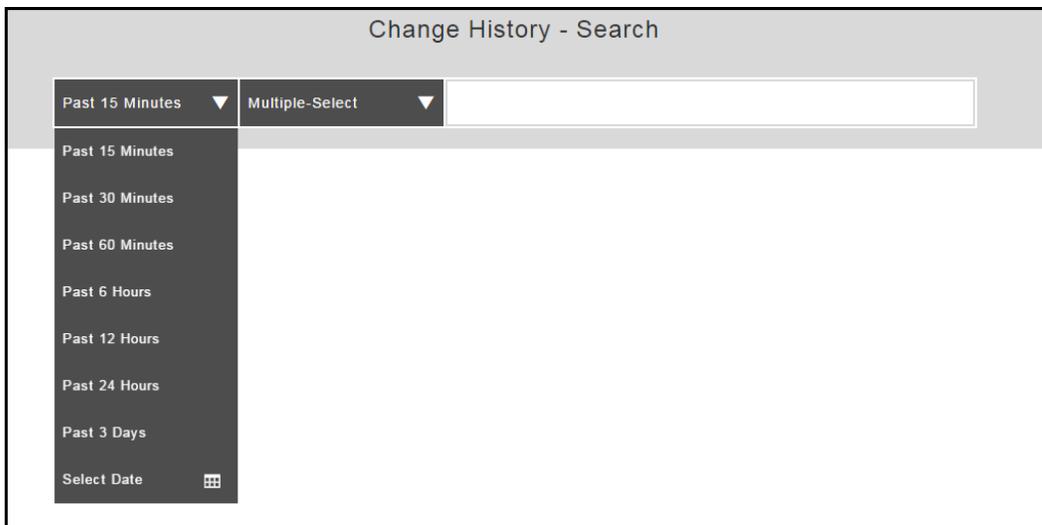
2. The Change History - Search dialog box opens.

Example:



3. Click the down arrow in the Time Increment field to open the drop-down list.

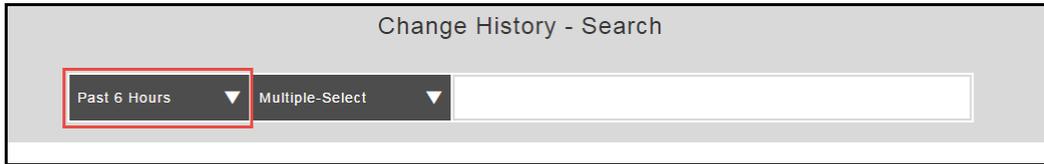
Example:



---

4. Select a time increment.

Example:



The screenshot shows a search interface titled "Change History - Search". It features two dropdown menus and a search input field. The first dropdown menu is highlighted with a red box and contains the text "Past 6 Hours". The second dropdown menu contains the text "Multiple-Select". The search input field is empty.

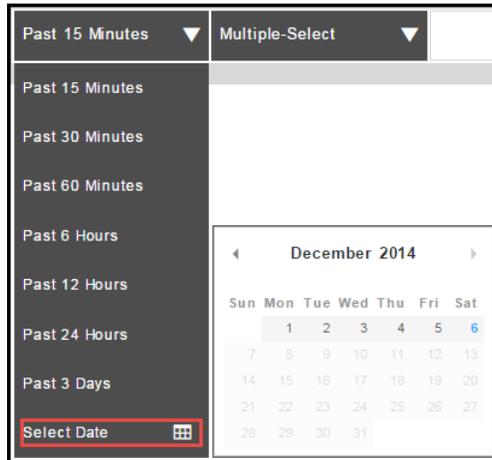
If you want to select a time increment longer than three days, go to the next step.

5. (Optional) If you want to use a time increment longer than three days, do the following:

- a. Click **Select Date**.

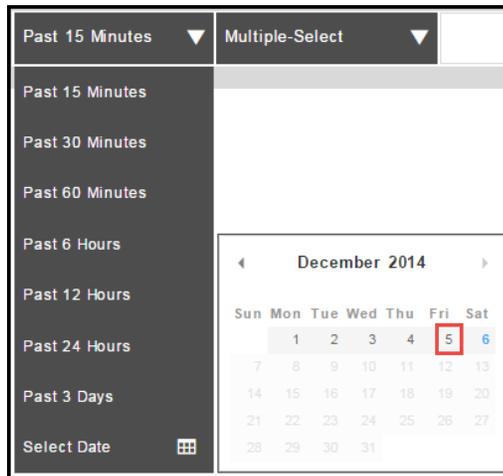
The Date Picker opens.

Example:



b. Select a date.

Example:



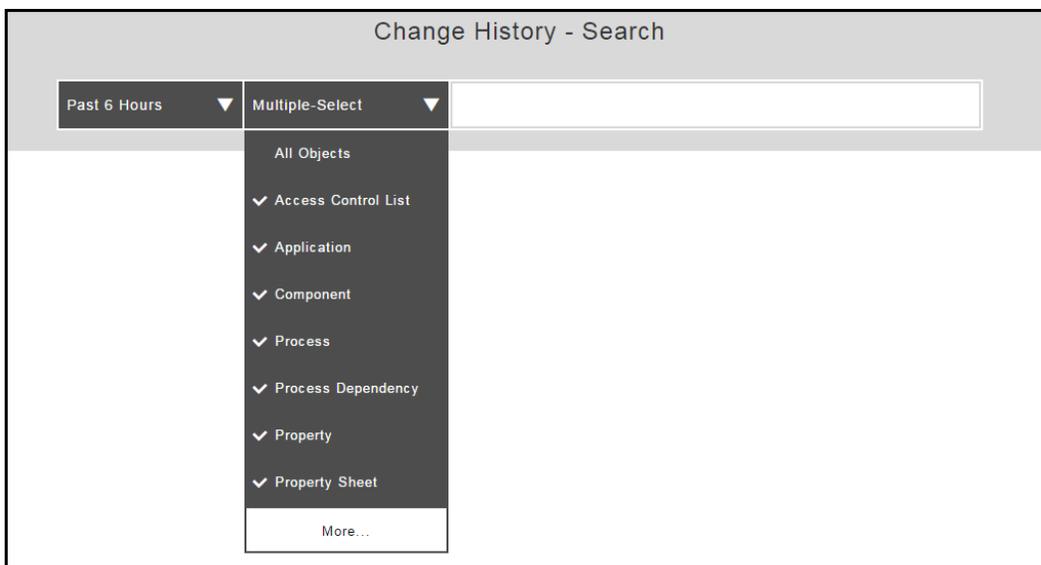
The Date Picker closes and the date that you selected appears in the Time Increment field.

Example:



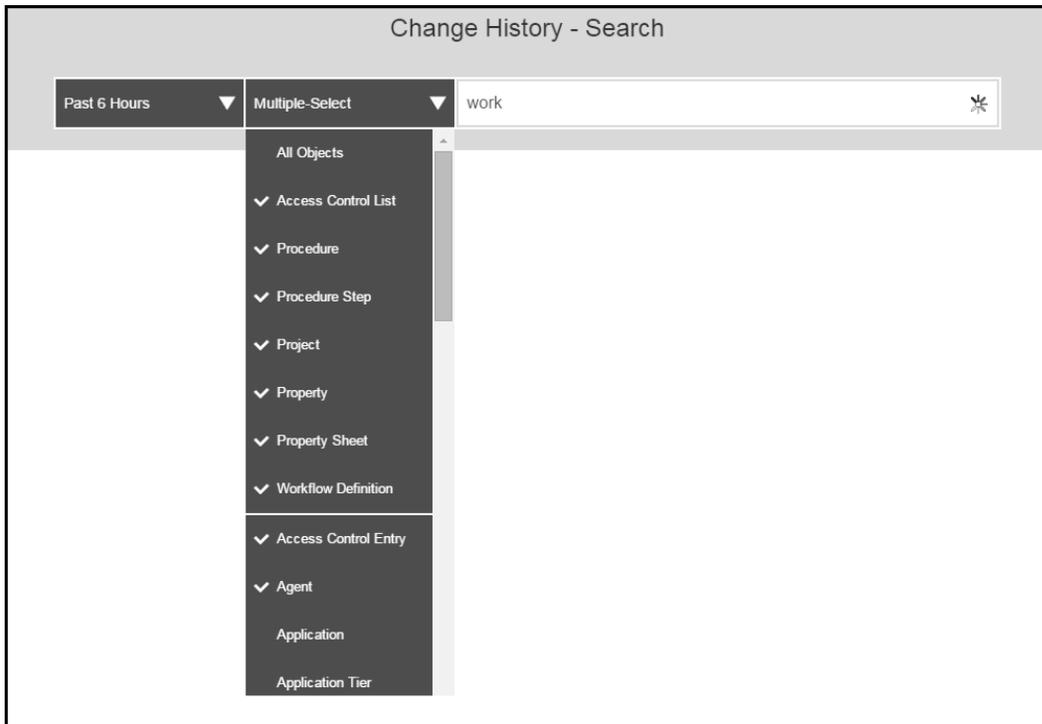
6. Click **Multiple Select** to open the drop-down list of tracked objects.

Example:



7. Select the objects to include in the Change History.

Example:

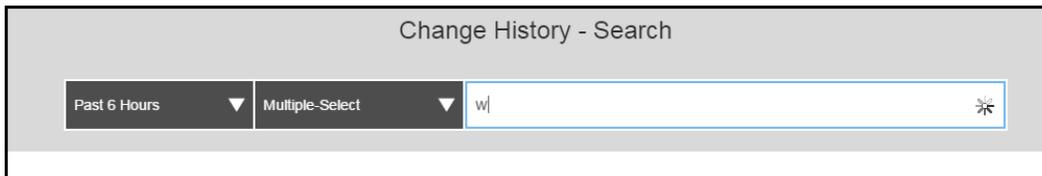


8. Enter the search criteria.

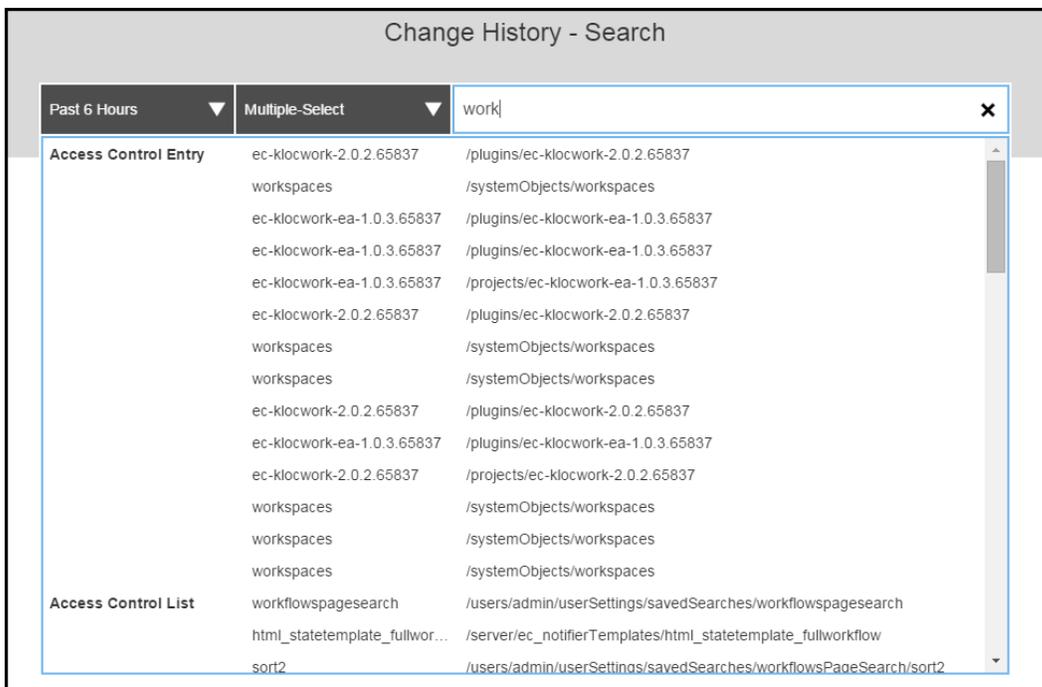
As you type, the system starts to search for objects that match your search criteria.

A list of objects matching your search criteria appears in the results section.

Example:

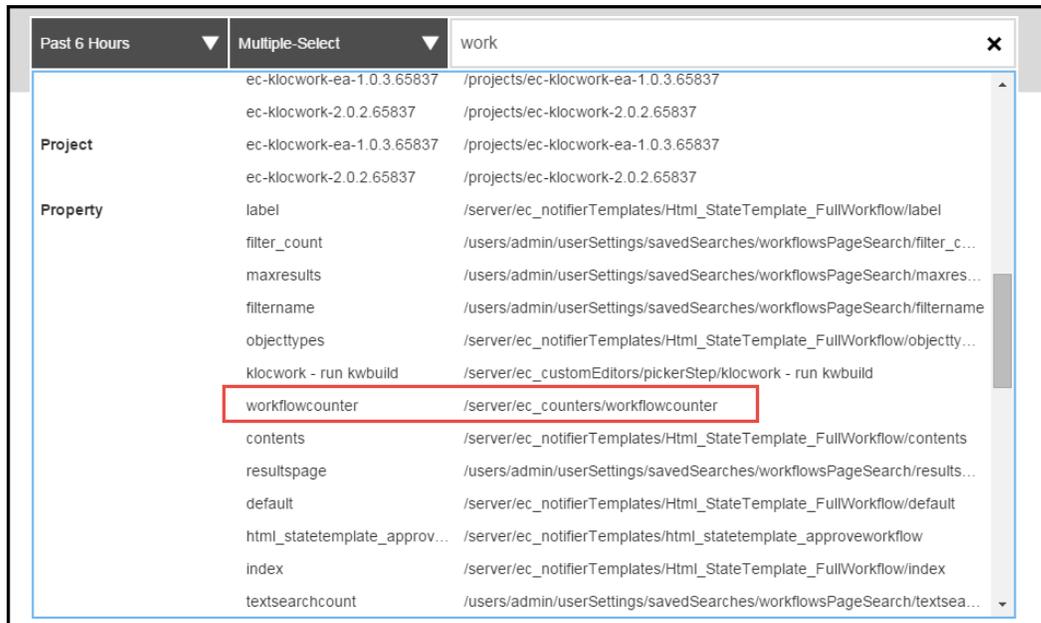


Example:



## 9. Select an object in the list.

Example:



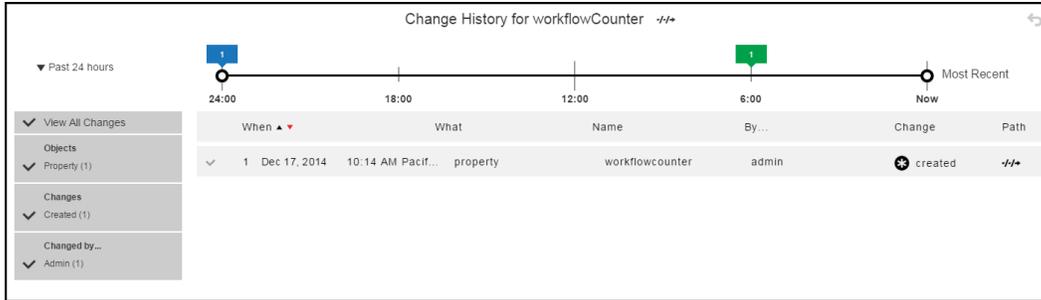
The change history for the object that you selected appears.

Example:



The selected object has no changes in the default time increment. You can change the time increment to show more changes to the selected object.

Example:



In the ElectricCommander platform, you can start a search through the Change History

## Searching Through the Change History From an Existing Change History

Follow these steps to search through the Change History from an existing Change History.

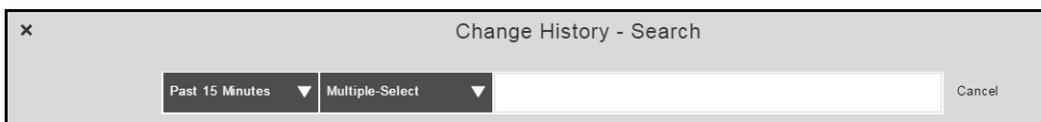
Starting from the Change History:

1. Click the Search icon.



The Change History - Search dialog box opens.

Example:



2. Click the down arrow to open the drop-down list.
3. Select a time increment.
 

If you want to select a time increment longer than three days, go to the next step.
4. (Optional) If you want to use a time increment longer than three days, do the following:
  - a. Click **Select Date**.
 

The Date Picker opens.
  - b. Select a date.
 

The Date Picker closes and the date that you selected appears in the Time Increment field.
5. Click **Multiple Select** to open the drop-down list of tracked objects.
6. Select the objects to include in the Change History.

7. Enter the search criteria.

As you type, the system starts to search for objects that match your search criteria.

A list of objects matching your search criteria appears in the results section.

8. Select an object in the list.

The change history for the object that you selected appears.

# Snapshots

Use snapshots to reliably and repeatedly deploy your software in a continuous delivery cycle. A snapshot is an immutable version of an application in ElectricFlow with specific versions of the artifacts. You can save more than one snapshot of the application during the build, test, deploy, and release phases. You can compare snapshots to optimize and troubleshoot the application.

## Adding Snapshots

Follow these steps to add snapshots:

1. Go to the Applications list.
2. Choose an application.
3. Click the snapshot icon.

Example:



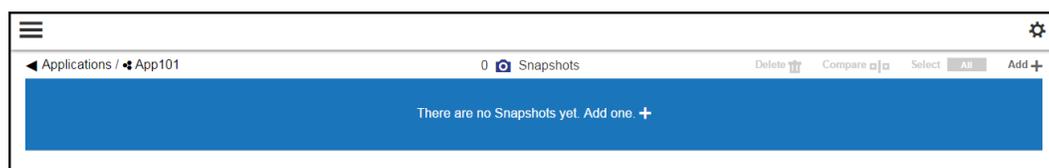
4. Select **Snapshot List**.

The snapshot list appears.

5. To add a new snapshot, do one of the following:

If there are no snapshots in the list, click anywhere in the **Add one. +** pane to open the New Snapshot wizard.

Example:



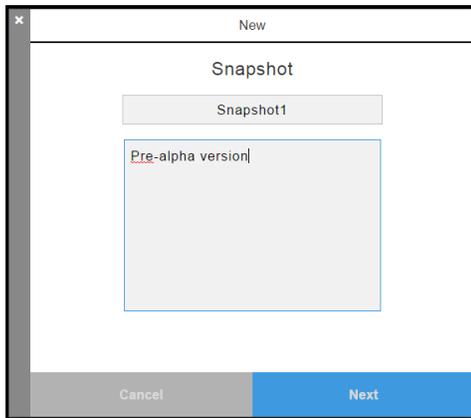
If the list has one or more snapshots, click **Add +**.

The New Snapshot wizard appears.

6. Enter a name for the snapshot that must be unique within the application.

7. (Optional) Enter a description of the snapshot.

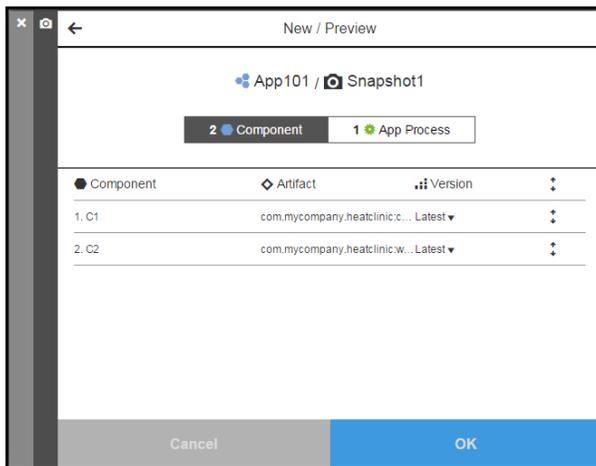
Example:



8. Click **Next**.

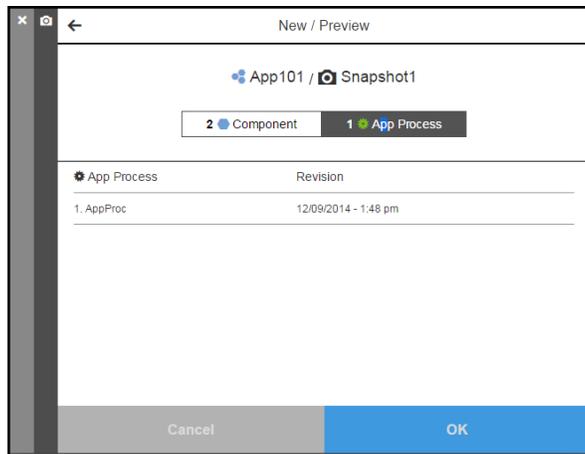
9. The New/Preview wizard opens.

Example:



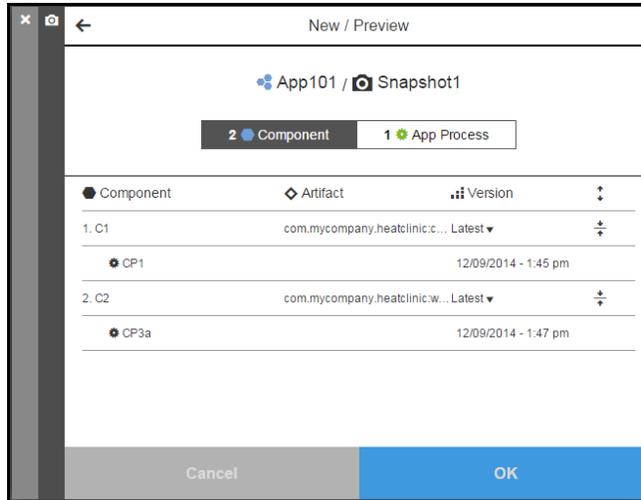
10. Toggle between the Component and App Process views to see the components and application processes for the selected application.

Example:



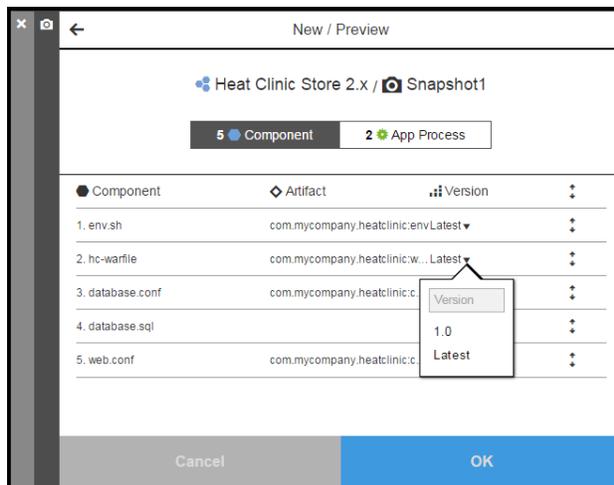
11. In the Component view, select the artifact versions for the snapshot:
  - a. Click the View icon to see the component processes for a component.

Example:



- b. Click the down arrow in the **Version** column to open the drop-down list of available artifact versions.

Example:



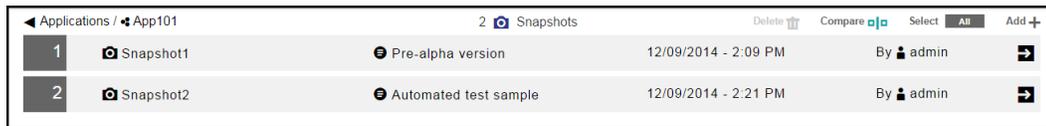
- c. Select an artifact version.

12. Click **OK**.

The "Snapshot <snapshot\_name> has been created.>" message appears.

The snapshot list is updated and now has the snapshot that you added.

Example:



The screenshot shows a web interface for 'Applications / App101' with a 'Snapshots' section. It displays two snapshots in a table format. The table has columns for a selection box, snapshot name, version, timestamp, creator, and an action icon.

	Snapshot	Version	Timestamp	By	Action
1	Snapshot1	Pre-alpha version	12/09/2014 - 2:09 PM	admin	[Icon]
2	Snapshot2	Automated test sample	12/09/2014 - 2:21 PM	admin	[Icon]

## Deploying Snapshots

1. Go to the Applications List.
2. Choose an application.
3. Click the Run process button.

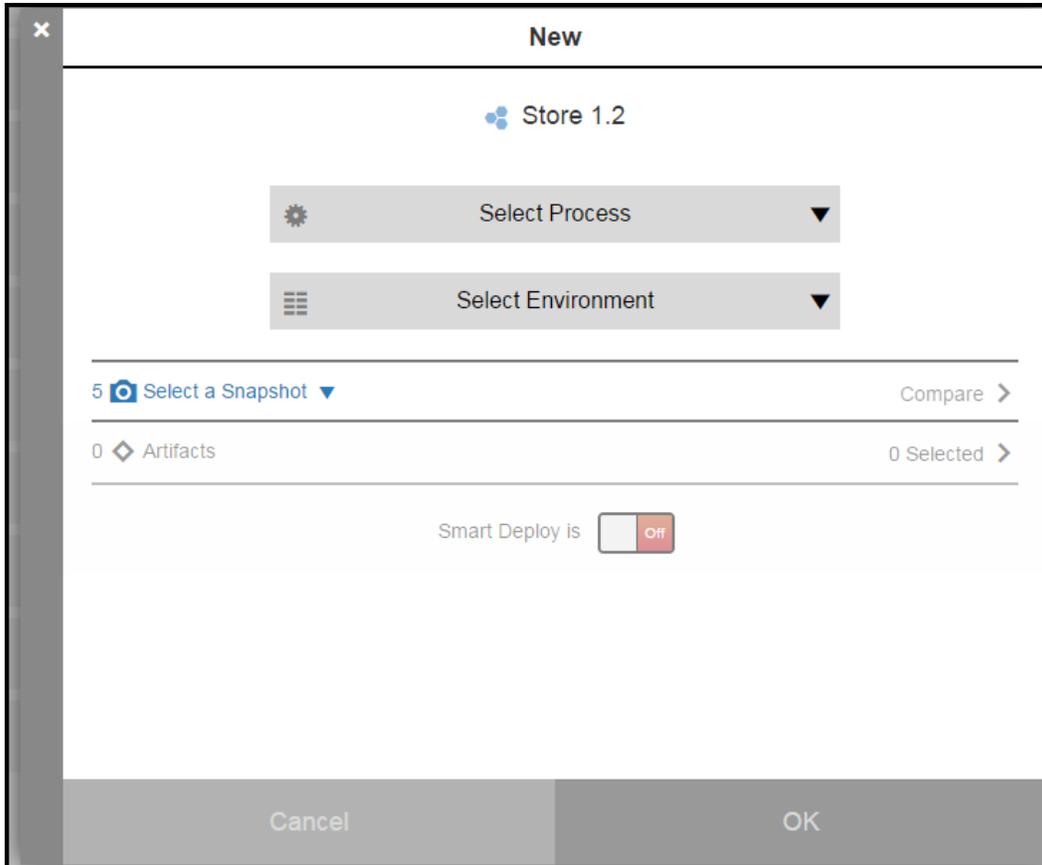
Example:



4. Select **New Run**, **Last Run**, or **Schedule**.

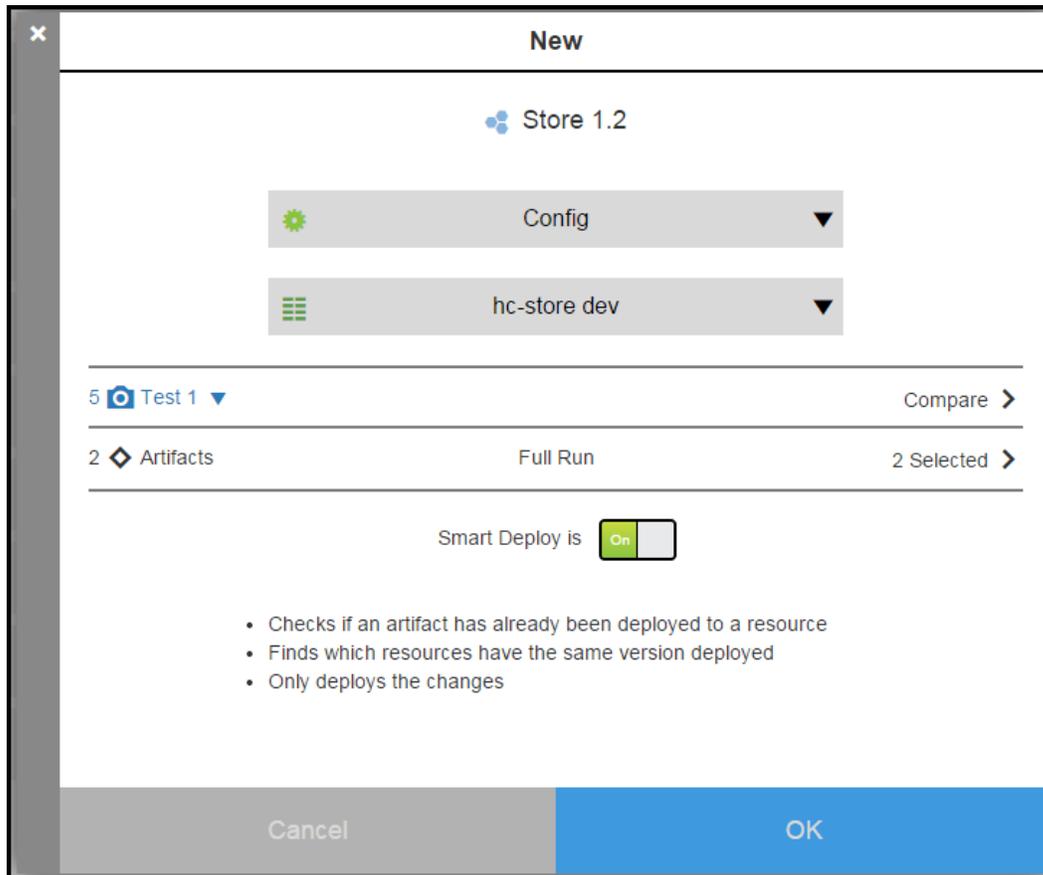
The wizard to set the parameters for running an application opens.

In this wizard, you can deploy a snapshot or compare the application to the selected snapshot.



5. Select the parameters to run an application.

For more information, go to [Using a Wizard to Deploy and Compare Snapshots](#) and [Running Applications](#).



6. To run (deploy) the snapshot:
  1. Click **OK**.
  2. Go to [Running Applications](#) for more information.
7. To compare the application to the selected snapshots:
  1. Click **Compare** to compare the application to the selected snapshot.
  2. Go to [Comparing Snapshots](#).

You can compare the application to other snapshots.

## Using a Wizard to Deploy and Compare Snapshots

**How to get here:** From the Home page, go to the Applications List, choose an application, click the Run process button, and select **New Run**.

Example:

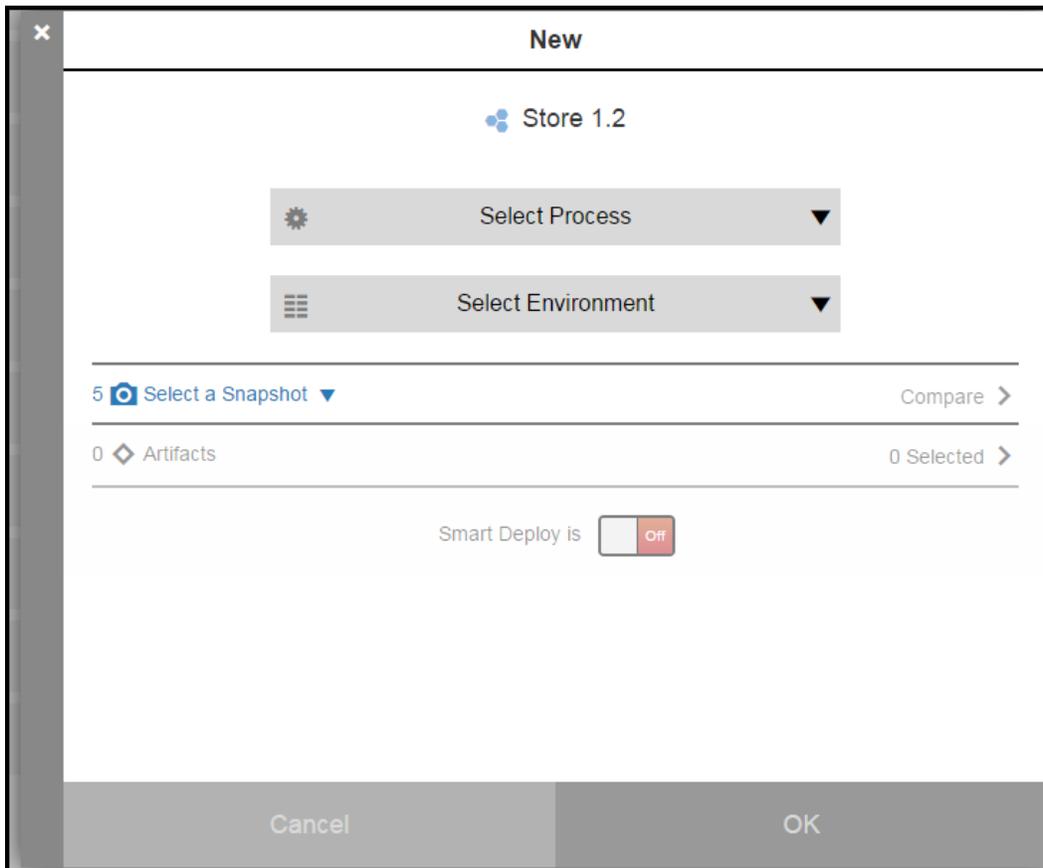


The wizard to set the parameters for running (deploying) the application opens.

In this wizard, you can deploy a snapshot or compare the application to a snapshot.

## Setting Parameters in the Wizard

In the wizard, the **Select a Snapshot** option is available (enabled) because the application has one or more snapshots saved.



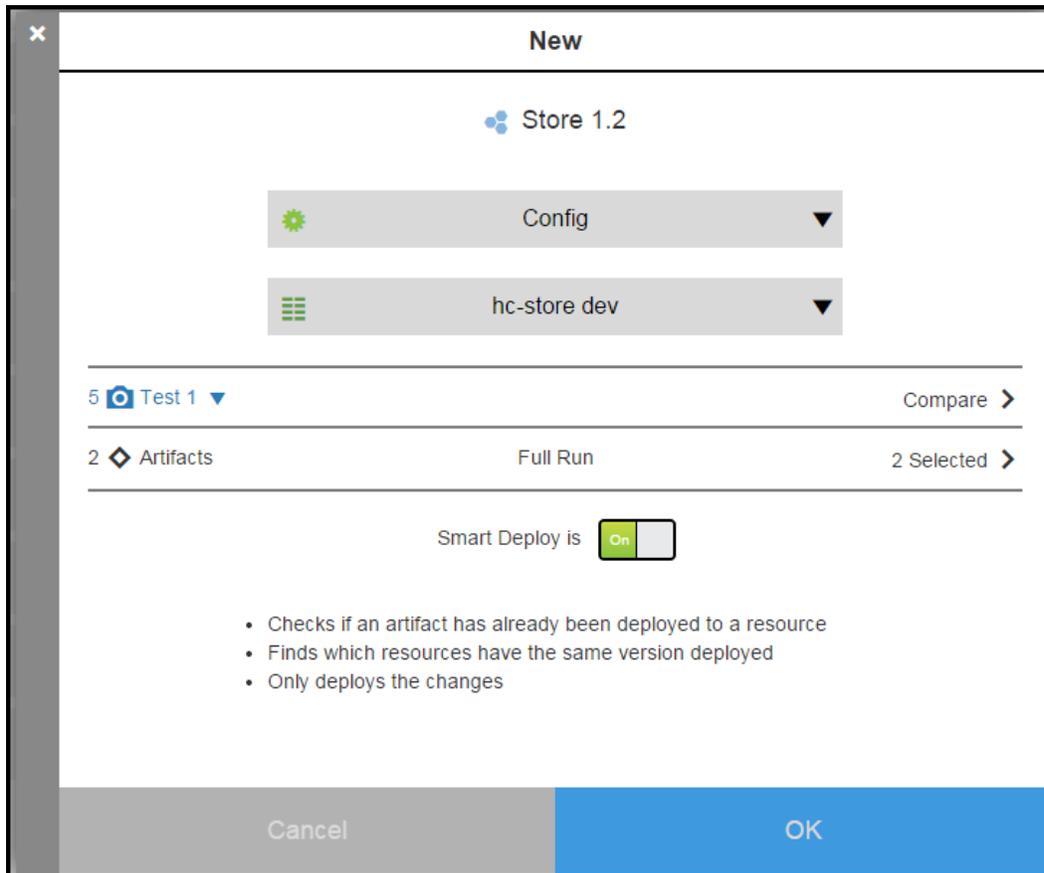
Select the following options to set the parameters to run the application:

- **Select Process**—Click the pull-down button to select the application to run.
- **Select Environment**—Click the pull-down button to select the environment in which the application will run.
- **Select a Snapshot**—Click the pull-down button to select one or more snapshot.

The **Compare** option is now available (enabled) because of the following

- There are one or more snapshots that can be compared to the application in the selected environment.
- The application has been selected.

- The environment has been selected.
- The one or more snapshot has been selected.



## Deploying Snapshots

After setting the parameters, click **OK** to run (deploy) the selected snapshot.

For more information, go to

## Comparing Snapshots

After setting the parameters, click **OK** to compare the selected application to a snapshot.

## Managing Snapshots

You can do the following tasks on a snapshot list:

To open the snapshot list:

1. Go to the Applications list.
2. Choose an application.

3. Click the snapshot icon.

Example:

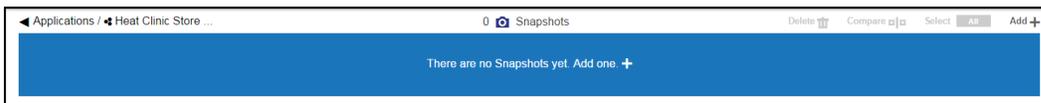


4. Select **Snapshot List**.



The snapshot list opens.

If no snapshots have been saved, the snapshot list is empty. Go to [Adding Snapshots](#) to add a snapshot in the application.



If one or more snapshots have been saved, the snapshot list shows the saved snapshots.



After you choose a snapshot, click the **View details** icon to view more information about the snapshot.

## Comparing Snapshots

Use one of these methods to compare snapshots:

- [Comparing an Application to Snapshots](#)
- [Comparing Snapshots](#)

## Comparing an Application to Snapshots

1. Go to the Environments List.
2. Select an environment.

Example:

3	hc-store dev	Enabled <span style="color: green;">●</span> ○	1 Applications installed	1 ...	☰	🔍
4	hc-store prod	Enabled <span style="color: green;">●</span> ○	1 Applications installed		☰	🔍
5	hc-store qa	Enabled <span style="color: green;">●</span> ○	1 Applications installed	1 ...	☰	🔍

3. Click the Inventory icon to open the Environment Inventory.

Example:



4. Choose an application.

Example:

Environments / Inventory		hc-store dev			
1	Store 1.2	3 Artifacts	1 ▲	⌵	🔍

5. Click the snapshot icon.

Example:



6. Select **Compare**.

Example:



The Snapshot Comparison page opens. You can compare the currently deployed application to a snapshot.

The currently deployed application is on the left, and the snapshot is on the right. You can choose the snapshot for the comparison.

Example:



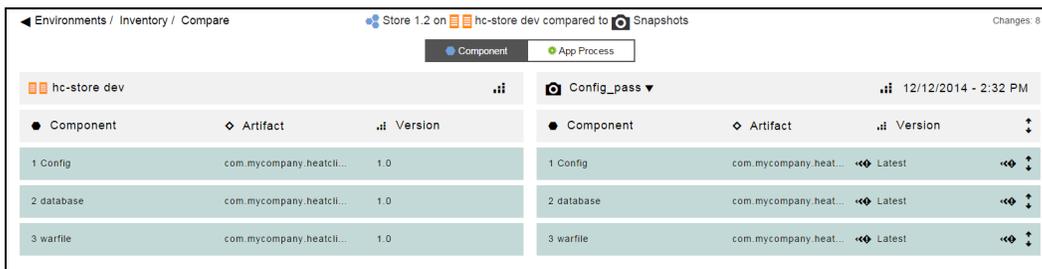
- Click the pull-down button next to the snapshot name to select a different snapshot.

Example:



The Snapshot Comparison page now shows the comparison between the application and the Config\_pass snapshot. The components and component processes have changed.

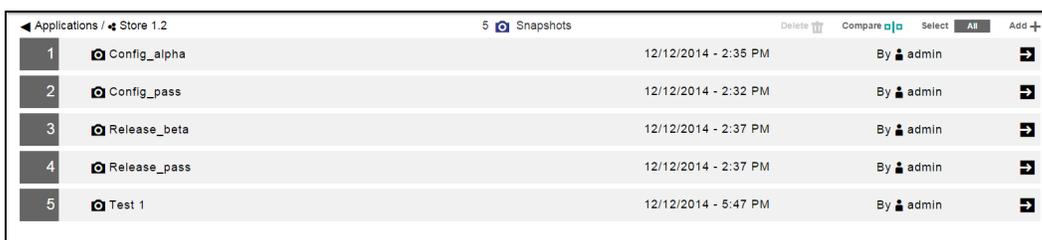
Example:



## Comparing Snapshots

- Go to the Applications List.
- Select an application.
- Click the snapshot icon.
- Select **Snapshot List**. The Snapshot Comparison page opens.

Example:



- Click the Compare Snapshots icon to open the Snapshot Comparison page.

Example:



Example:

Release_beta ▼			Test 1 ▼		
Component	Artifact	Version	Component	Artifact	Version
1 Config	com.mycompany.heatcli...	1.0	1 Config	com.mycompany.heatcli...	Latest
2 warfile	com.mycompany.heatcli...	1.0	2 warfile	com.mycompany.heatcli...	Latest
3 database	com.mycompany.heatcli...	Latest	3 database	com.mycompany.heatcli...	Latest

- Click the pull-down button next to the snapshot name in a column to select other snapshots.

Example:

Release_beta ▼			Test 1 ▼		
Component	Artifact	Version	Component	Artifact	Version
1 Config	com.mycompany.heatcli...	1.0	1 Config_alpha	com.mycompany.heatcli...	Latest
2 warfile	com.mycompany.heatcli...	1.0	2 warfile	com.mycompany.heatcli...	Latest
3 database	com.mycompany.heatcli...	Latest	3 database	com.mycompany.heatcli...	Latest

The results change when you select different snapshots.

Example:

Release_beta ▼			Config_alpha ▼		
Component	Artifact	Version	Component	Artifact	Version
1 database	com.mycompany.heatcli...	Latest	1 database	com.mycompany.heatcli...	1.0
2 Config	com.mycompany.heatcli...	1.0	2 Config	com.mycompany.heatcli...	1.0
3 warfile	com.mycompany.heatcli...	1.0	3 warfile	com.mycompany.heatcli...	1.0

## Comparing an Application to Snapshots

**How to get here:** From the Home page, go to the Environments List, select an environment, and click the Inventory icon to open the Environment Inventory.

Example:



This example shows the Store 1.2 application.

5	Store 1.2	3 Component	2 Application Process	3 Tier Map			
	8_Release	Release	hc-store prod	Dec 12, 2014	2:58 Pacif...	00:04	100%
	7_Config	Config	hc-store prod	Dec 12, 2014	2:57 Pacif...	00:18	100%
	6_Release	Release	hc-store dev	Dec 12, 2014	2:36 Pacif...	00:03	100%
	5_Config	Config	hc-store prod	Dec 12, 2014	2:34 Pacif...	00:18	100%
	4_Config	Config	hc-store prod	Dec 12, 2014	2:31 Pacif...	00:19	100%
	3_Release	Release	hc-store dev	Dec 12, 2014	2:30 Pacif...	00:05	100%
	2_Config	Config	hc-store qe	Dec 12, 2014	2:29 Pacif...	00:26	100%
	1_Config	Config	hc-store dev	Dec 12, 2014	2:28 Pacif...	00:20	100%

The application was run in these environments:

3	hc-store dev	Enabled	1 Applications installed	1
4	hc-store prod	Enabled	1 Applications installed	
5	hc-store qe	Enabled	1 Applications installed	1

The Environment Inventory for the environment called hc-store dev shows that three artifacts were deployed.

Environments / Inventory		hc-store dev		
1	Store 1.2	3 Artifacts	1	

After you click the View icon, more information about the artifacts appear.

Environments / Inventory		hc-store dev		
1	Store 1.2	3 Artifacts	1	
	database	com.my...config	1.0	41 minutes ago
	Config	com.my...arfile	1.0	41 minutes ago
	warfile	com.my...arfile	1.0	33 minutes ago

When you click the snapshot icon, you can either create a new snapshot or compare a snapshot to the currently deployed application.

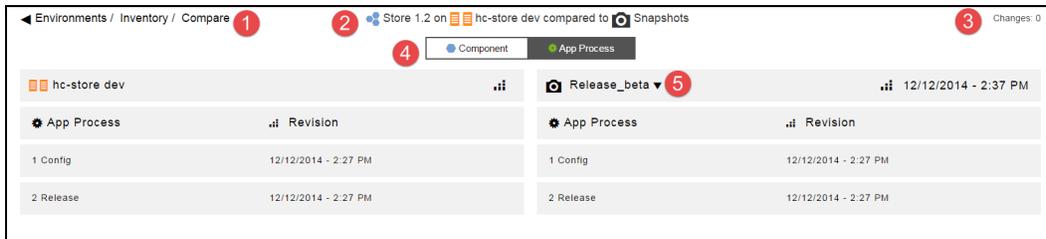
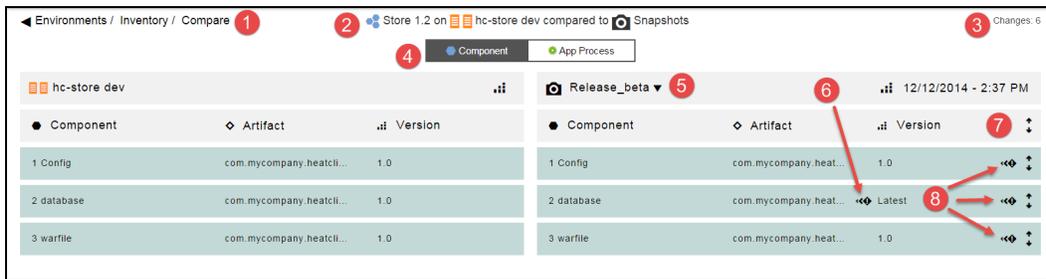
When one or more snapshots are saved for an application, this menu appears. If the application has no snapshots, you can only create a snapshot.

Example:



In the Snapshot Comparison page, you can compare the currently deployed application to a snapshot. The currently deployed application is on the left, and the snapshot is on the right. You can choose the snapshot for the comparison.

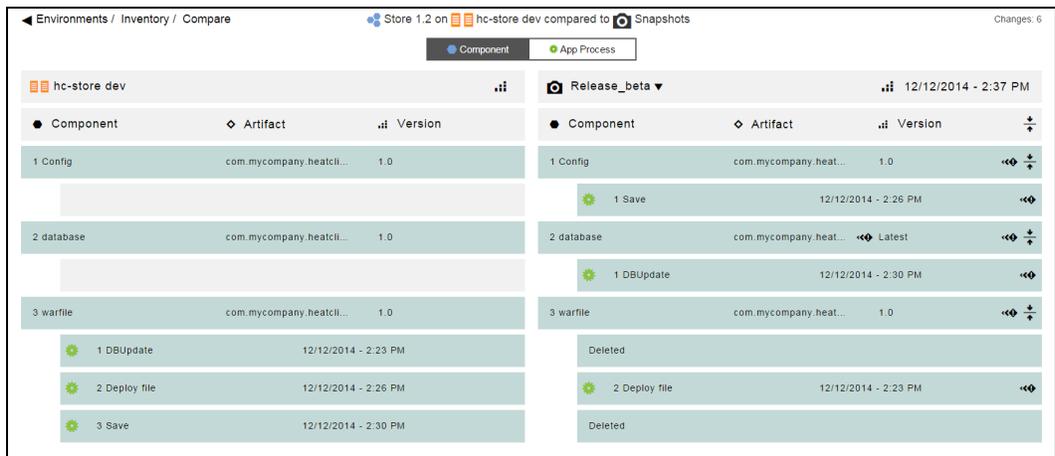
The Snapshot Comparison page has the following information:



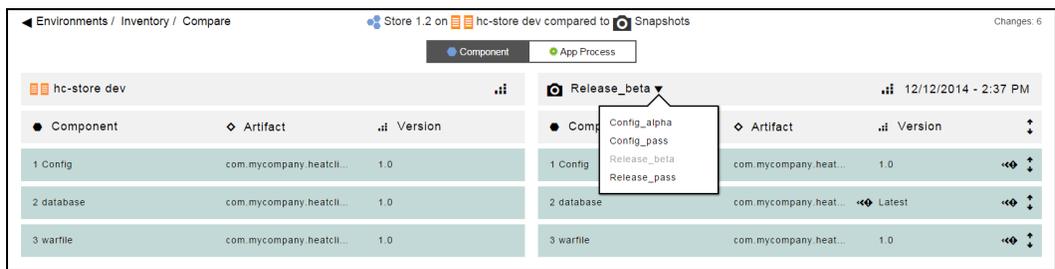
1	Breadcrumb: Environments / Inventory / Compare
2	Page title: <Application name> on <Environment Name> compared to Snapshots
3	Number of changes, which is updated automatically depending on the selected snapshot.
4	Toggle between the Component and App Process views.
5	When more than one snapshot is saved, the pull-down button is available (enabled). You can select other snapshots to compare.
6	Change Alert icon, which appears next to the object that changed.
7	Click the View icon to expand all the rows and view information about the objects in both columns.

8	Click the View icon in each object row to view more information about the object in both columns.
---	---

When you expand the rows to shows details about the objects, the comparison shows that the component processes changed between the currently deployment application and the Release\_beta snapshot.



You can compare a different snapshot to the application. Click the pull-down button next to the snapshot name to select a snapshot.



The Snapshot Comparison page now shows the comparison between the application and the Config\_pass snapshot. The components and component processes changed.

Environments / Inventory / Compare Store 1.2 on hc-store dev compared to Snapshots Changes: 8

Component App Process

Component	Artifact	Version	Component	Artifact	Version
1 Config	com.mycompany.heatcli...	1.0	1 Config	com.mycompany.heatcli...	Latest
2 database	com.mycompany.heatcli...	1.0	1 Save		12/12/2014 - 2:26 PM
3 warfile	com.mycompany.heatcli...	1.0	2 database	com.mycompany.heatcli...	Latest
1 DBUpdate		12/12/2014 - 2:23 PM	1 DBUpdate		12/12/2014 - 2:30 PM
2 Deploy file		12/12/2014 - 2:26 PM	Deleted		
3 Save		12/12/2014 - 2:30 PM	2 Deploy file		12/12/2014 - 2:23 PM
			Deleted		

**Related topics:**

[Snapshot List](#)

[Snapshot Wizards Comparing Snapshots in the Snapshot List](#)

[Comparing Snapshots in the Snapshot List](#)

## Comparing Snapshots in the Snapshot List

**How to get here:** From the Applications List, select an application > click the snapshot icon > select **Snapshot List**.

Example:



This example shows the Store 1.2 application.

5	Store 1.2	3	Component	2	Application Process	3	Tier Map			
8_Release	Release	hc-store prod	Dec 12, 2014	2:58 Pacif...	00:04	100%				
7_Config	Config	hc-store prod	Dec 12, 2014	2:57 Pacif...	00:18	100%				
6_Release	Release	hc-store dev	Dec 12, 2014	2:36 Pacif...	00:03	100%				
5_Config	Config	hc-store prod	Dec 12, 2014	2:34 Pacif...	00:18	100%				
4_Config	Config	hc-store prod	Dec 12, 2014	2:31 Pacif...	00:19	100%				
3_Release	Release	hc-store dev	Dec 12, 2014	2:30 Pacif...	00:05	100%				
2_Config	Config	hc-store qe	Dec 12, 2014	2:29 Pacif...	00:26	100%				
1_Config	Config	hc-store dev	Dec 12, 2014	2:28 Pacif...	00:20	100%				

The snapshot list has four snapshots:

Applications / Store 1.2		4 Snapshots		Details	Compare	Select	All	Add
1	Config_alpha	12/12/2014 - 2:35 PM	By admin					
2	Config_pass	12/12/2014 - 2:32 PM	By admin					
3	Release_beta	12/12/2014 - 2:37 PM	By admin					
4	Release_pass	12/12/2014 - 2:37 PM	By admin					

Click the Compare Snapshots icon to open the Snapshot Comparison Page.

Example:



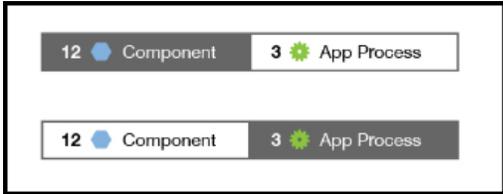
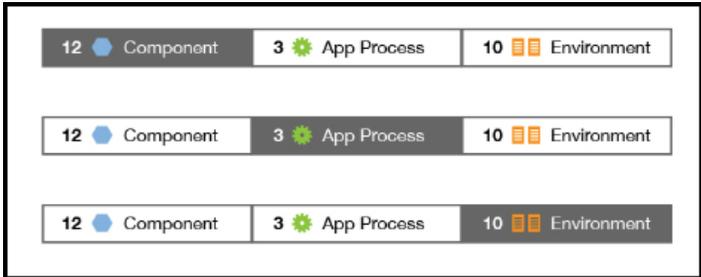
In this Snapshot Comparison page, you can compare two snapshots. The newest snapshot is on the left, and the snapshot that was saved before the previous one is on the right.

The Snapshot Comparison page has the following information:

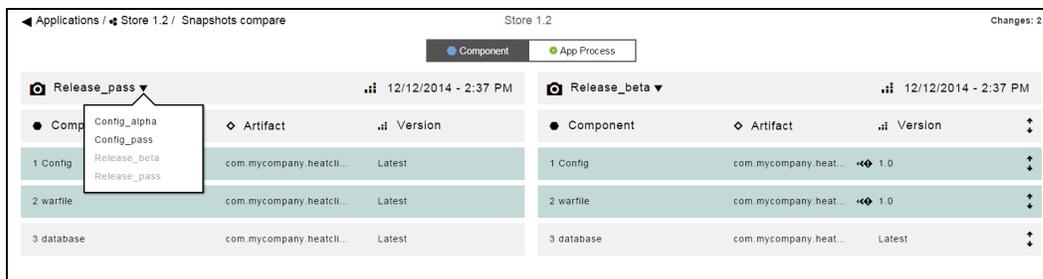
Applications / Store 1.2 / Snapshots compare		Store 1.2		Changes: 2	
Release_pass	12/12/2014 - 2:37 PM	Release_beta	12/12/2014 - 2:37 PM		
Component	Artifact	Version	Component	Artifact	Version
1 Config	com.mycompany.heatcli...	Latest	1 Config	com.mycompany.heatcli...	1.0
2 warfile	com.mycompany.heatcli...	Latest	2 warfile	com.mycompany.heatcli...	1.0
3 database	com.mycompany.heatcli...	Latest	3 database	com.mycompany.heatcli...	Latest

Applications / Store 1.2 / Snapshots compare		Store 1.2		Changes: 0	
Release_pass	12/12/2014 - 2:37 PM	Release_beta	12/12/2014 - 2:37 PM		
App Process	Revision	App Process	Revision		
1 Config	12/12/2014 - 2:27 PM	1 Config	12/12/2014 - 2:27 PM		
2 Release	12/12/2014 - 2:27 PM	2 Release	12/12/2014 - 2:27 PM		

1	Breadcrumb: Applications / <Application name>/ Snapshots compare
2	Application name
3	Number of changes, which is updated automatically depending on the selected snapshots.

4	<p>Toggle between the Component, App Process, and Environment views.</p> <p>Before a snapshot is deployed, only the Component and App Process views are available.</p>  <p>After the snapshot is deployed, Component, App Process, and Environment views are available.</p> 
5	<p>When more than two snapshots are saved, the pull-down button is available (enabled). You can select other snapshots to compare.</p>
6	<p>When more than two snapshots are saved, the pull-down button is available (enabled). You can select other snapshots to compare.</p>
7	<p>Change Alert icon, which appears next to the object that changed.</p>
8	<p>Click the View icon to expand all the rows and view information about the objects in both columns.</p>
9	<p>Click the View icon in each object row to view more information about the object in both columns.</p>

You can compare other snapshots to compare. Click the pull-down button next to the snapshot name in a column to select other snapshots.



The results change when you select different snapshots:

Store 1.2			Store 1.3		
Component	Artifact	Version	Component	Artifact	Version
1 Config	com.mycompany.heatcli...	Latest	1 Config	com.mycompany.heatcli...	1.0
2 database	com.mycompany.heatcli...	Latest	2 database	com.mycompany.heatcli...	1.0
3 warfile	com.mycompany.heatcli...	Latest	3 warfile	com.mycompany.heatcli...	1.0

## Deleting Snapshots

Do one of these methods to delete snapshots:

- [Selecting Snapshots to Delete](#)
- [Deleting All the Snapshots](#)

### Selecting Snapshots to Delete

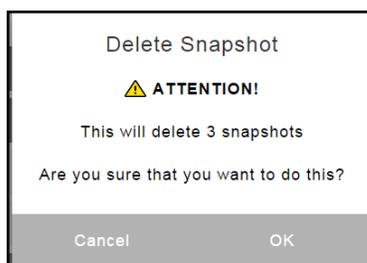
To delete one or more snapshots:

1. Select the snapshots that you want to delete.
2. Click the Delete button.

Example:

Snapshot ID	Name	Timestamp	Created By
1	Config_alpha	12/12/2014 - 2:35 PM	By admin
2	Config_pass	12/12/2014 - 2:32 PM	By admin
3	Release_beta	12/12/2014 - 2:37 PM	By admin
4	Release_pass	12/12/2014 - 2:37 PM	By admin
5	Test 1	12/12/2014 - 5:47 PM	By admin

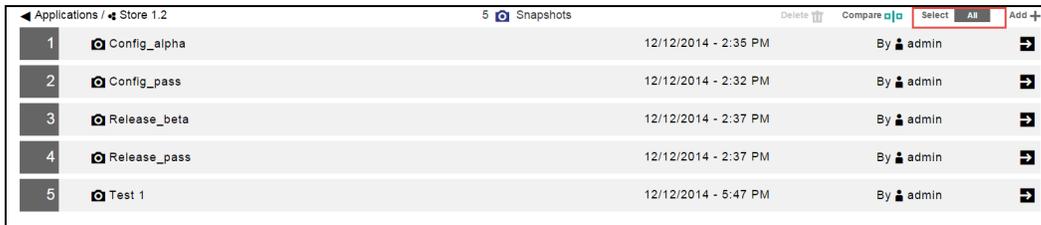
A message appears.



3. Click **OK**.

## Deleting All the Snapshots

1. Click **All**.



The screenshot shows a table of snapshots under the heading 'Applications / Store 1.2'. The table has 5 rows. The 'Select' button in the top right corner is highlighted in red and has 'All' selected. The table data is as follows:

1	Config_alpha	12/12/2014 - 2:35 PM	By admin	
2	Config_pass	12/12/2014 - 2:32 PM	By admin	
3	Release_beta	12/12/2014 - 2:37 PM	By admin	
4	Release_pass	12/12/2014 - 2:37 PM	By admin	
5	Test 1	12/12/2014 - 5:47 PM	By admin	

All of the snapshots are selected.

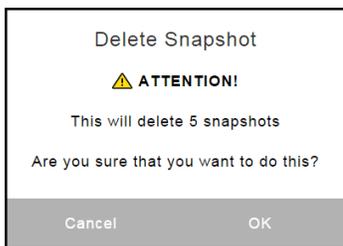
2. Click the Delete button.



The screenshot shows the same table of snapshots. The 'Delete' button in the top right corner is highlighted in red. The table data is the same as in the previous screenshot:

1	Config_alpha	12/12/2014 - 2:35 PM	By admin	
2	Config_pass	12/12/2014 - 2:32 PM	By admin	
3	Release_beta	12/12/2014 - 2:37 PM	By admin	
4	Release_pass	12/12/2014 - 2:37 PM	By admin	
5	Test 1	12/12/2014 - 5:47 PM	By admin	

A message appears.



3. Click **OK**.

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# ElectricFlow Tutorials

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This section has tutorials to help you use ElectricFlow to deploy your software, system, or application.

As you use ElectricFlow, remember that these terms have different meanings within ElectricFlow and when you use ElectricFlow to deploy your software or application:

## Application

- Within ElectricFlow—The application that you design and run (deploy) to produce your software for continuous delivery across different pipelines.
- Using ElectricFlow—The software, system or application that you build, test, install, implement, release, and deploy using ElectricFlow. This is the end product of using ElectricFlow.

## Deploy

- Within ElectricFlow—Running the application that you designed in ElectricFlow. The end product is your software, system, or application. Deploy is a synonym of run in ElectricFlow.
- Using ElectricFlow—All the processes or actions to develop and run your software in its environment, including building, testing, implementing, installing, configuring, making changes, and releasing.

## Run

- Within ElectricFlow—Running the application that you designed. The end product is your software, system, or application. Run is a synonym of deploy in ElectricFlow.
- Using ElectricFlow—All the processes or actions to use software in its environment, including implementing, installing, configuring, debugging, troubleshooting, and releasing.

- [Running Applications with Deploy Options](#)

## Running Applications with Deploy Options

Starting in ElectricFlow 5.2, when running an application, you can do a full or partial deploy and you can run the application on a schedule.

This tutorial describes how to run an application by adding a new artifact and selecting artifact versions to run (partial deploy and smart deploy).

### Before You Begin

We recommend designing an application as described in the following list and then running it.

- The application has one application process consisting one or more steps to retrieve an artifact.
- The application has two application tiers, and each tier has two components.
- The application has five artifacts, and each artifact has two versions.
  - For four of the artifacts, an artifact is retrieved as part of an application or component process.
  - The fifth artifact is the new artifact that will be added to the application.
- Each component has a component process with one or more steps to retrieve an artifact from a repository.

- The environment has two tiers, and each tier has two resources.
- There are at least two tier maps.

## Tutorial

To run the application you add a new artifact and select the specific version of an existing artifact:

1. In the application, add the fifth artifact to an application process step that retrieves the artifact.
2. Go to the Applications List, click on the "Run process" icon, and select **New Run**.  
The wizard where you set the parameter to run the application opens.
3. Select the application process and environment, and enable smart deploy.
4. Click **Full run** to open the dialog box with the list of objects in the application.
5. Select the new artifact.
6. For the existing artifact, find it in the list and select the artifact version that you want to use.
7. Click **OK** to return to the wizard.
8. Click **OK** to run the application.
9. See the results in the Environment Inventory and the Application Inventory.

### Related Topics:

- [Designing and Running Applications](#)
- [Running Applications](#)
- [Viewing Results and Troubleshooting](#)
- [Inventory Tracking](#)
- [ElectricFlow Icons](#)