

ElectricFlow 5.0

User Guide

Electric Cloud, Inc.
www.electric-cloud.com

Document Rev. 1

Copyright © 2002 - 2014 Electric Cloud, Inc. All rights reserved.

Published 5/1/2014

Electric Cloud® believes the information in this publication is accurate as of its publication date. The information is subject to change without notice and does not represent a commitment from the vendor.

THE INFORMATION IN THIS PUBLICATION IS PROVIDED “AS IS.” ELECTRIC CLOUD, INCORPORATED MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND WITH RESPECT TO THE INFORMATION IN THIS PUBLICATION, AND SPECIFICALLY DISCLAIMS IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Use, copying, and distribution of any ELECTRIC CLOUD software described in this publication requires an applicable software license.

Copyright protection includes all forms and matters of copyrightable material and information now allowed by statutory or judicial law or hereinafter granted, including without limitation, material generated from software programs displayed on the screen such as icons, screen display appearance, and so on.

The software and/or databases described in this document are furnished under a license agreement or nondisclosure agreement. The software and/or databases may be used or copied only in accordance with terms of the agreement. It is against the law to copy the software on any medium except as specifically allowed in the license or nondisclosure agreement.

Trademarks

Electric Cloud, ElectricAccelerator, ElectricCommander, ElectricDeploy, ElectricInsight, and Electric Make are registered trademarks or trademarks of Electric Cloud, Incorporated.

Electric Cloud products—ElectricAccelerator, ElectricCommander, ElectricDeploy, ElectricInsight, and Electric Make—are commonly referred to by their “short names”—Accelerator, Commander, Deploy, Insight, and eMake—throughout various types of Electric Cloud product-specific documentation.

Other product names mentioned in this guide may be trademarks or registered trademarks of their respective owners and are hereby acknowledged.

Introduction to ElectricFlow	4
Getting Started with ElectricFlow	5
ElectricFlow Terminology	5
Accessing ElectricFlow	6
Home Page	8
ElectricFlow System	11
ElectricFlow Scenarios and Examples	13
Scenario: Basic Application Deployment	13
Example: Application Process with Successful Results	31
Example: Application Process That Fails	38
More About ElectricFlow	42
Creating Applications	42
Creating Environments	44
Example: Process Steps Defined with Component Operations	47
Example: Process Steps Defined with Procedures	50
Example: Process Steps Defined with Plugins	55
Configuring Plugins	60
Example: Tier Maps	61
Application List Page	66

Applications Page	67
Component Process Details Dialog Box	69
Inventory Tracking	69
Application Inventory Tracking	70
Environment Inventory Tracking	70
Environment List	71
Environment Inventory	72

Introduction to ElectricFlow

ElectricFlow is a continuous delivery solution that you can use for software release management and production deployment. You can automate DevOps processes and provide continuous delivery of your product.

With ElectricFlow, you can implement *deploy automation* and ensure that your DevOps process run continuously and automatically. You can model applications with processes from development to production and set up workflows to automatically run them.

ElectricFlow consists of two main layers:

- User interface for automation

You can set DevOps processes.

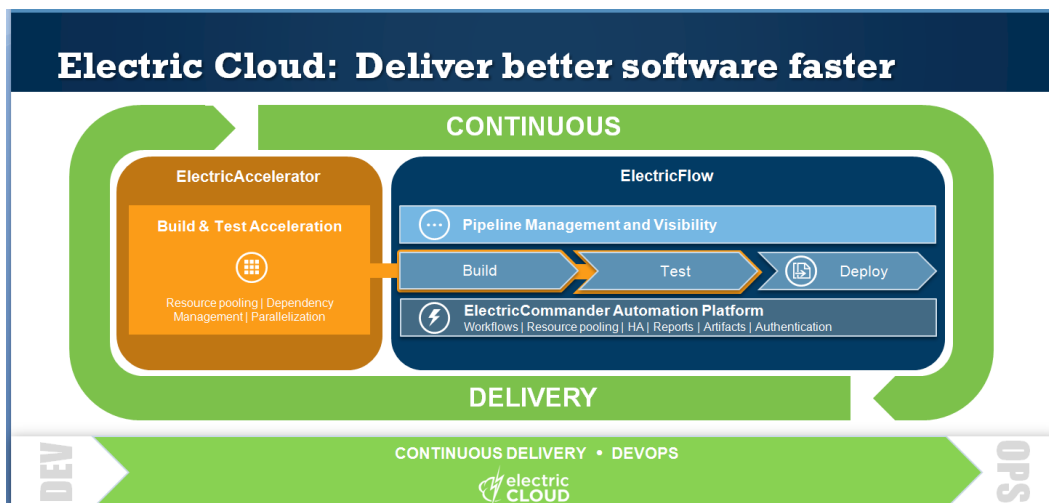
You can create the applications to run automatically.

You can monitor applications as they run.

- ElectricCommander platform

You can configure workflows, manage resources and artifacts, run reports, see the job status, and create server clusters.

The following diagram shows how ElectricFlow provides continuous delivery.



Getting Started with ElectricFlow

Before performing the tasks in this section, make sure that ElectricFlow is installed and running properly. For more information, see the installation guide:

http://docs.electric-cloud.com/commander_doc/5_0/HTML5/Install/CommanderInstallHTML.htm.

To start using ElectricFlow, do the following:

1. Access and log into ElectricFlow.

For information about the Home page, see [Home Page](#).

2. Configure ElectricFlow and model your applications.

If you want to implement deploy automation, see [Scenario: Basic Continuous Delivery Solution](#).

If you want to evaluate ElectricFlow, see [Evaluating ElectricFlow](#).

For all other use cases, see the "Getting Started with Commander" section in the "Online Help" part of the *Commander Help* guide:

http://docs.electric-cloud.com/commander_doc/5_0/HTML5/Help/commanderhelp.htm.

The "Getting Started" section has scenarios to configure the ElectricCommander automation platform.

ElectricFlow Terminology

These are some of the objects in ElectricFlow.

- **Application** - Software program that lead to a result when the application is run.

In ElectricFlow, an application can have application processes, components, and component processes. Only application processes and components are required.

If you want ElectricFlow to run an application, it must have one of these combinations:

- Application processes and components
- Application processes and component with component processes.

- **Application Process** - Group of steps or actions that lead to a result when an application is run.

A process can be re-used and rerun multiple times.

For example, an application process can be preflight, unit test, back up, or upgrade.

- **Application Tier** - Logical grouping of components in an application.

For example, an application can have tiers for different kinds of servers:

- Web server
- Test server
- Database server

- **Component** - Part of an application.

- **Component Process** - Group of steps or actions that are defined for a component, which is part of an application.

When the application runs, it runs the application and component processes, leading to a result.

A process can be reused and rerun multiple times.

For example, a component process can be backing up the server configuration, saving the database, or upgrading the server.

- **Environment Tier** - Logical grouping of resources in an environment.

- **Process** - Group of steps or actions that perform a specific task.

A process can be reused and rerun multiple times.

- **Resource** - An agent machine configured to communicate with the automation platform (ElectricCommander).

- **Templates** - Basic predefined format of information for continuous delivery.

- **Tier** - Logical group of objects, such as components in an application tier or resources in an environment tier.

- **Version** - An iteration of the application.

Accessing 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 login screen appears.



Electric Flow Continuous Delivery

Login

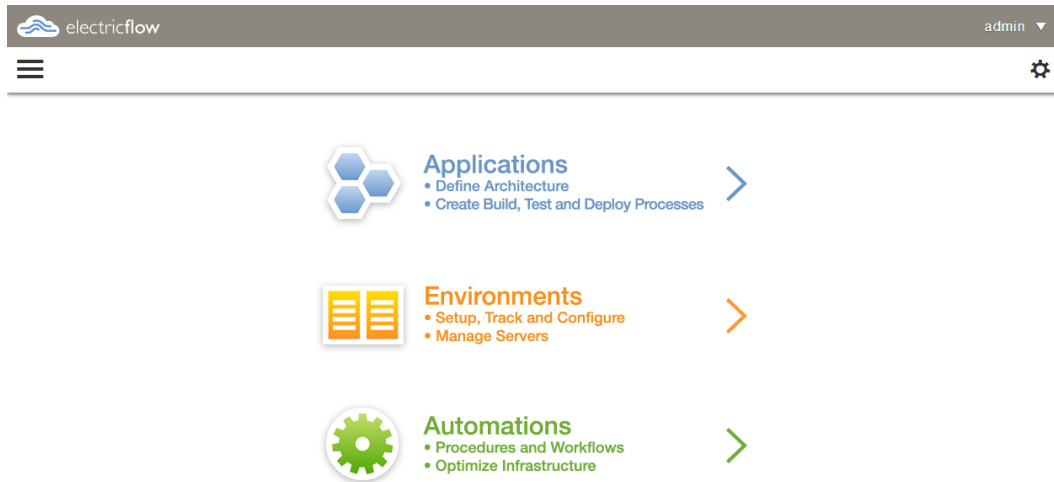
Password

Sign in

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

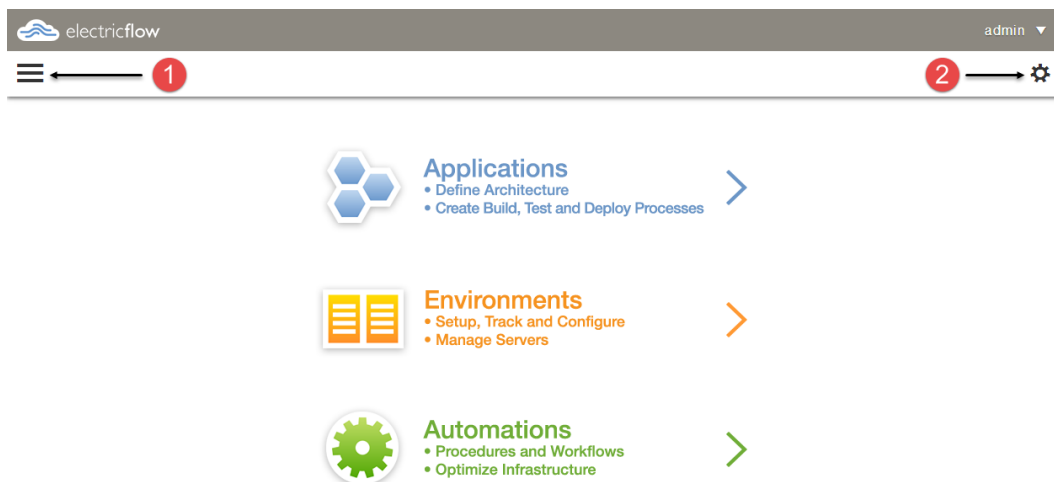
2. Enter a user name and password.
3. Click **Login**.

The ElectricFlow home page opens.



Home Page

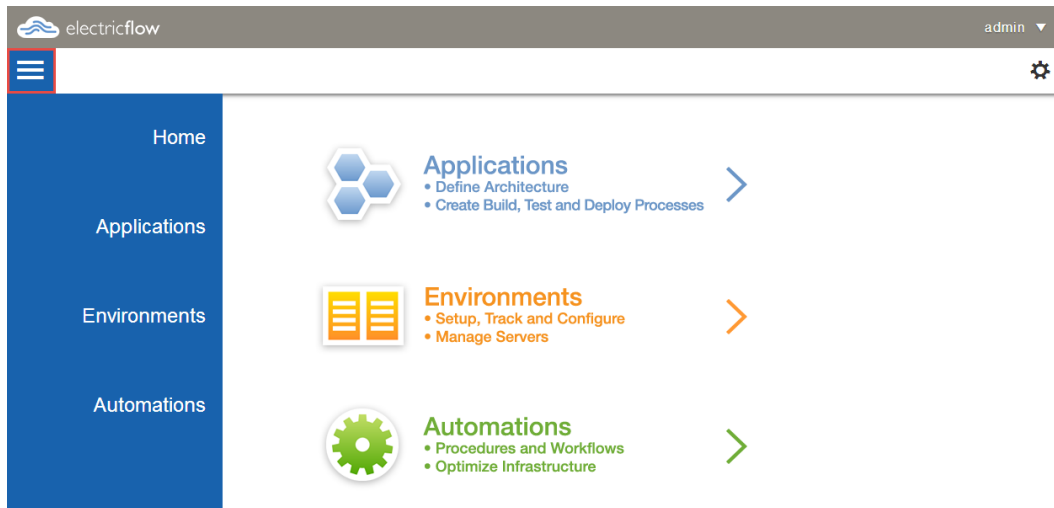
After you log into ElectricFlow, the Home page opens.



1	Main navigation menu
---	----------------------

2	Administrative settings
---	-------------------------

When you click on the main menu icon, several options appear that match the options on the Home page.

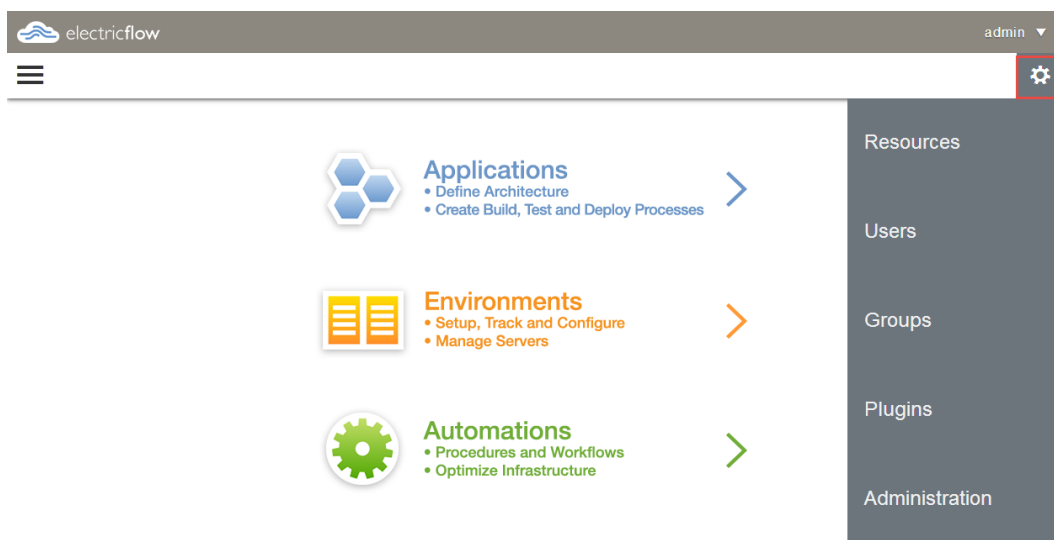


For example, if you want to create a new application or see the list of configured applications, you can click **Applications** on the Home page or click **Applications** in the list.

For information about the pages that appear when you click Applications, see [Creating Applications](#).

For information about the pages that appear when you click Environments, see [Creating Environments](#).

When you click on the Administrative Settings icon, the Administrative Settings menu appears that enables to configure the product installation .



When you click **Resources**, you go to the ElectricCommander platform page to view and manage ElectricFlow resources. For more information about the Resources page, see the "Resources" section in the *ElectricCommander User Guide*.

electriccommander Logged in as 'System Administrator' Logout Help

Home Projects Jobs Workflows Cloud Artifacts Search Administration

Resources Pools Workspaces Zones Gateways

Resources – Current License Usage: 0 of 100 Managed Hosts; 0 of 100 Proxied Hosts

Filters

Resource Filters

Save Filters Reset

Quick Search

► Status

Both Enabled/Disabled

Pools

Hosts

Step Limit

Proxy Agent

Filter

	Name	Pools	Job Status	Description	Zone	HTTPS & Host	Step Load
<input checked="" type="checkbox"/>	local	default	✓	Local resource created during installation.	default	deploy-main- uat.electric- cloud.com	0 of unlimited

Records per page: 20 1 of 1

When you click **Users**, you go to the ElectricCommander platform page to view and manage ElectricFlow users. For more information about the Users page, see the "Users and Groups" section in the *ElectricCommander User Guide*.

electriccommander Logged in as 'System Administrator' Logout Help

Home Projects Jobs Workflows Cloud Artifacts Search Administration

Event Log Groups Users Licenses Directory Providers Email Configurations Database Configuration Plugins Server Source Control Defect Tracking

Users Create Local User

Filter:

Maximum Results: 100

Include Inactive Users: ☐

OK

Search Results

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

When you click **Groups**, you go to the ElectricCommander platform page to view and manage ElectricFlow groups. For more information about the Groups page, see the "Users and Groups" section in the *ElectricCommander User Guide*.

electriccommander Logged in as 'System Administrator' Logout Help

Home Projects Jobs Workflows Cloud Artifacts Search Administration

Event Log Groups Users Licenses Directory Providers Email Configurations Database Configuration Plugins Server Source Control Defect Tracking

Groups Create Local Group

Filter:

Maximum Results: 100

Include Inactive Groups: ☐

OK

Search Results

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

When you click **Plugins**, you go to the ElectricCommander platform to view and manage ElectricFlow plugins. For more information about the Plugin Manager, see the "Plugins Manager" section in the *ElectricCommander User Guide*.

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

Home | Projects | Jobs | Workflows | Cloud | Artifacts | Search | **Administration**

Event Log | Groups | Users | Licenses | Directory Providers | Email Configurations | Database Configuration | **Plugins** | Server | Source Control | Defect Tracking

Plugin Manager

Currently Installed | Install from File/URL | View Catalog

Category: All | Show Promoted Plugins Only: ☐

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 / 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

When you click **Administration**, you go to the ElectricCommander platform Administration. The following shows the Event Log. For more information about the Event Log, see the "Event Log" section in the *ElectricCommander User Guide*.

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

Home | Projects | Jobs | Workflows | Cloud | Artifacts | Search | **Administration**

Event Log | Groups | Users | Licenses | Directory Providers | Email Configurations | Database Configuration | Plugins | Server | Source Control | Defect Tracking

Event Log

WARN | ☆

0 Results

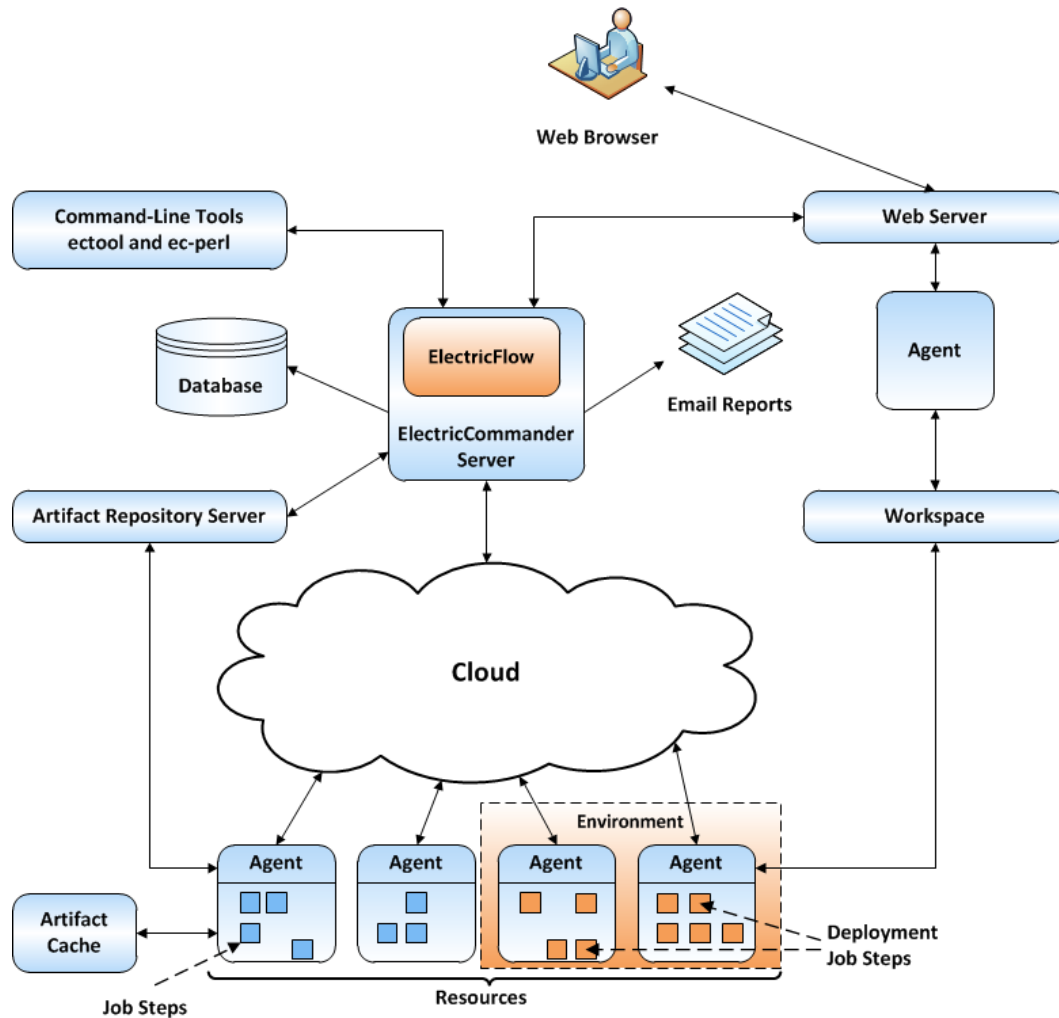
Currently, there are no records to display in this list.

ElectricFlow System

This section describes a local ElectricFlow system.

Topics:

- [ElectricFlow System](#)



In this local configuration:

- The ElectricCommander server manages resources, issues commands, and generates reports.
- Application, components, environments, and deployment job steps are defined in ElectricFlow.
- Deployment job steps are executed on resources in the defined deployment 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.

ElectricFlow Scenarios and Examples

This section has scenarios and examples to create continuous delivery solutions.

IMPORTANT: Do not delete the default project.

If the default project is deleted and not recreated, ElectricFlow is no longer available. To use it again, you must re-install ElectricFlow.

Scenario: Basic Application Deployment

A basic application deployment has the following objects:

- An application to build, test, and deploy processes for your product
- Application processes that make up the application. For example, deploy, rollback, backup, or upgrade.
- Components that are parts of the application. For example, a database, server, or a collection of logs and reports.
- Component processes for the components. For example, a process that backs up a database or a server, a process that upgrades a database or a server, or a process to print logs to a specific location.
- An environment to which resources are assigned and the application is mapped. An application must be mapped to an environment in a tier map to run the application.

The applications in the following scenario have application processes and components with component processes. The scenario has these major steps:

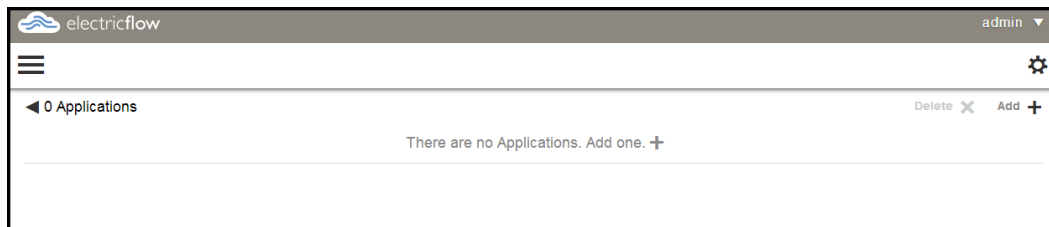
- Create applications with component processes and application processes.
- Create environments to which resources are assigned.
- Create a tier map between an application tier and an environment tier.
- Run the job.

For examples of the results when processes are run, see

- [Example: Process with Successful Results](#)
- [Example: Process That Fails](#)

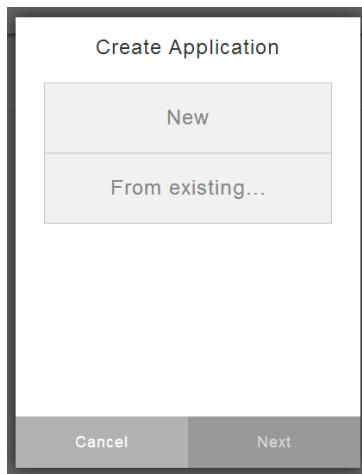
1. Click **Applications** on the ElectricFlow Home page.

The Applications page appears.



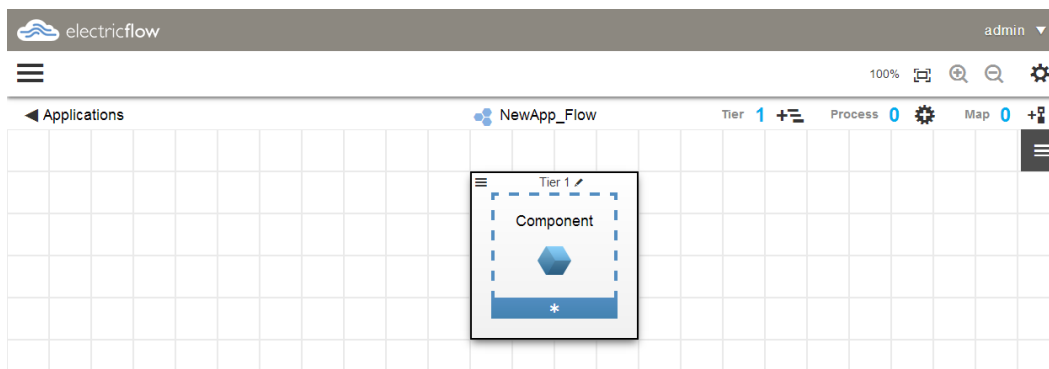
2. To add an application, click on the plus sign next to Add.

The Create Application dialog box opens.



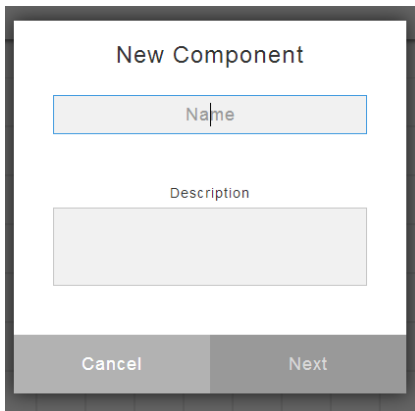
3. Click **New** or **From existing** and then click **Next**. Configure the application as described in the subsequent dialog boxes. Go to [Creating Applications](#) for more information.

After you configure the application, the Applications page appears. The following example shows the Applications page with one component. You can edit the name of the component tier by clicking pencil icon next to the tier name (Tier 1).



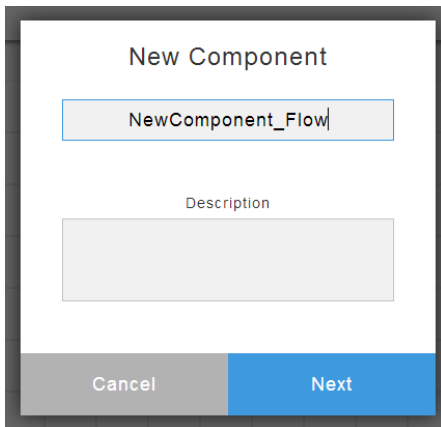
4. To create a component, click the icon (similar to an asterik) in the tier.

The New Component dialog box appears.



The image shows a 'New Component' dialog box. It has a title bar at the top. Below the title bar, there is a text input field labeled 'Name'. Below the 'Name' field is a larger text area labeled 'Description'. At the bottom of the dialog box, there are two buttons: 'Cancel' on the left and 'Next' on the right.

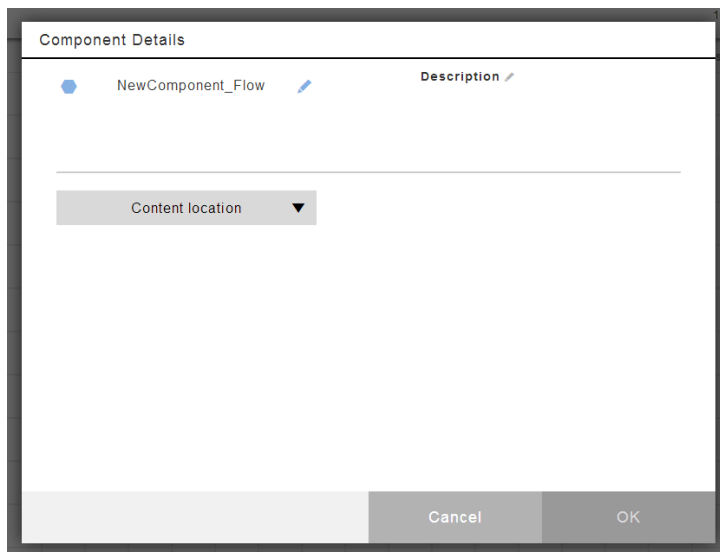
5. Enter the name of the component in the Name field.
6. (Optional) Enter a description of the component in the Description field.



The image shows the 'New Component' dialog box after some input. The 'Name' field now contains the text 'NewComponent_Flow'. The 'Description' field is empty. The 'Next' button is now highlighted in blue, while the 'Cancel' button remains grey.

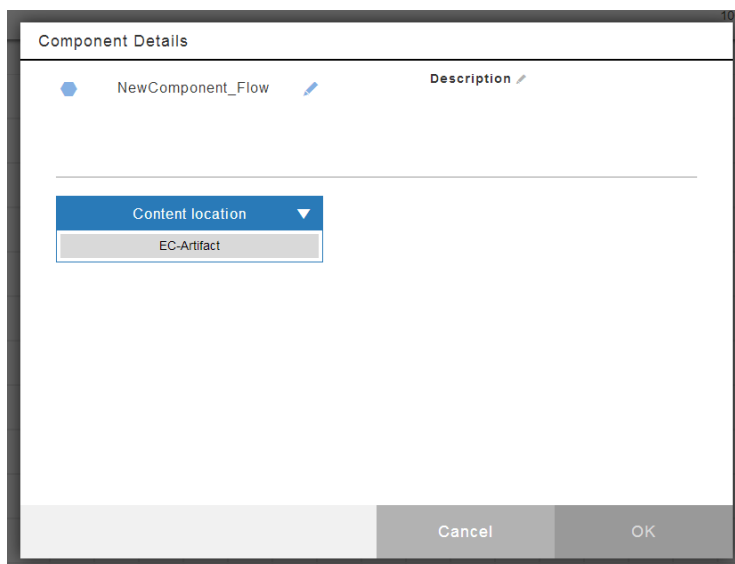
7. Click **Next**.

The Component Details dialog box appears.



8. Click the down arrow in the Current Location box.

The supported options appear.

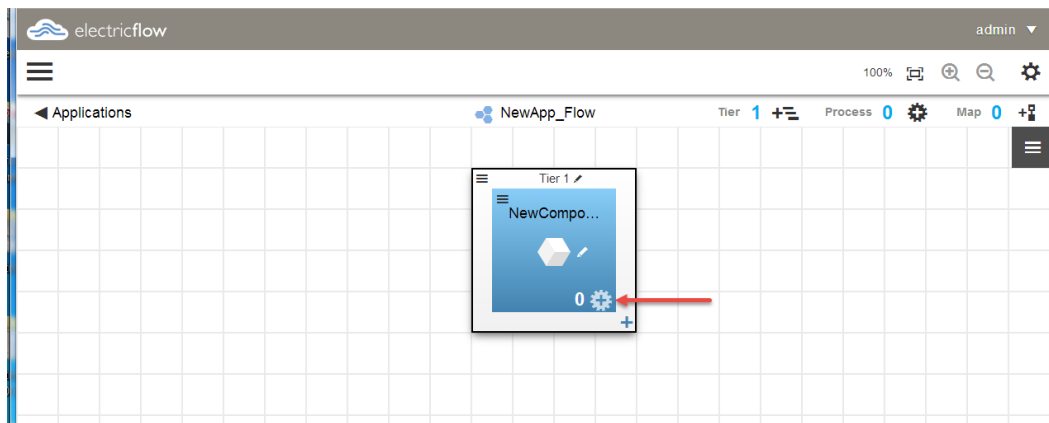


9. Select an option.

10. Enter information about the option, and then click **OK**.

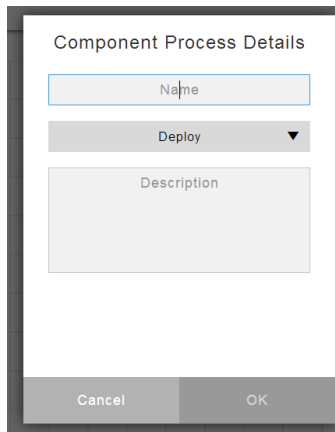
The screenshot shows the 'Component Details' dialog box. At the top, it says 'NewComponent_Flow' with a pencil icon and 'Description' with a pencil icon. Below this is a dropdown menu set to 'EC-Artifact' and a 'Browse' button. The 'Artifact:' field contains 'foo' and is marked as 'Required'. The 'Version:' section has radio buttons for 'Latest' (selected), 'Exact', and 'Range'. Below 'Range' are 'Minimum:' and 'Maximum:' fields, each with an 'Inclusive?' checkbox. The 'Retrieve to directory:' field is empty, and the 'Overwrite:' dropdown is set to 'update'. At the bottom are 'Cancel' and 'OK' buttons.

The Applications page appears with the updated component.



11. To create a component process, click the Process icon in the component.

The Component Process Details dialog box appears.



The dialog box is titled "Component Process Details". It contains a text field labeled "Name" with a cursor inside. Below it is a dropdown menu labeled "Deploy" with a downward arrow. Under the dropdown is a large text area labeled "Description". At the bottom are two buttons: "Cancel" and "OK".

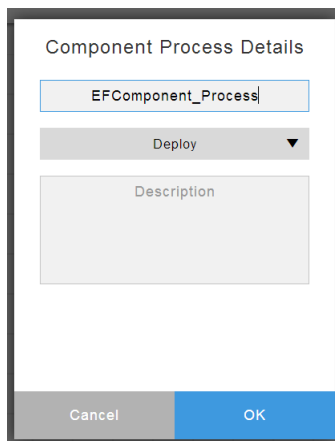
12. Enter the name of the process in the Name field.

13. Select the process type:

Deploy - Use inventory tracking. The ElectricCommander server tracks the artifacts deployed to environments.

Undeploy - The next time that the deploy process is run, the ElectricCommander server removes information about the artifacts deployed to environments.

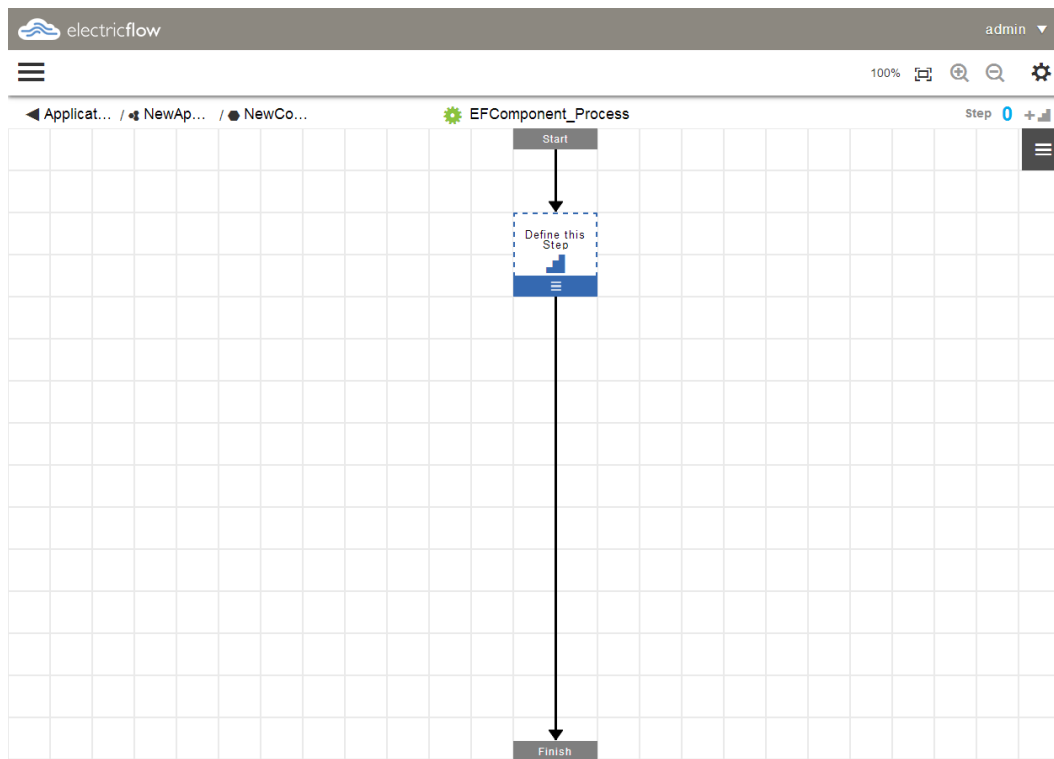
Other - Do not use inventory tracking



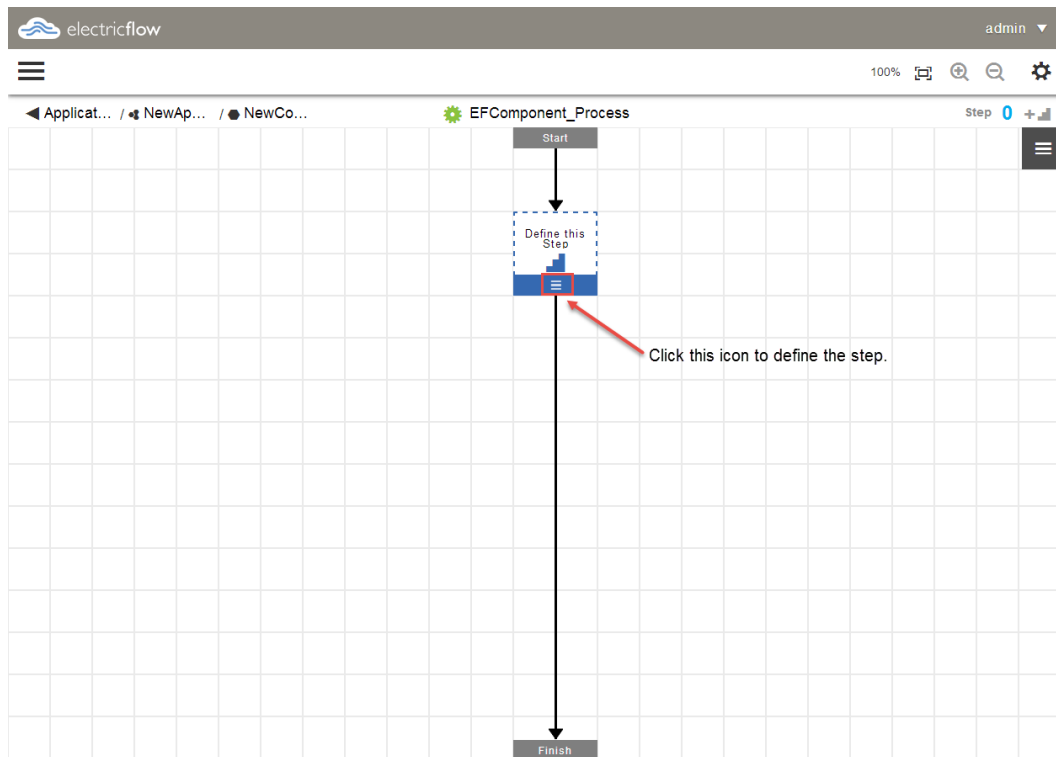
The dialog box is titled "Component Process Details". The "Name" field now contains the text "EFComponent_Process". The "Deploy" dropdown menu is still selected. The "Description" text area is empty. The "Cancel" button is grey, and the "OK" button is blue.

14. (Optional) Enter a description of the process.

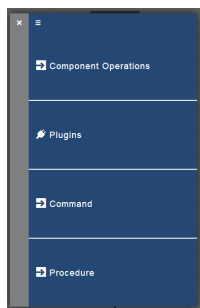
The Component Process page opens.



- Click the icon in the step to define it.

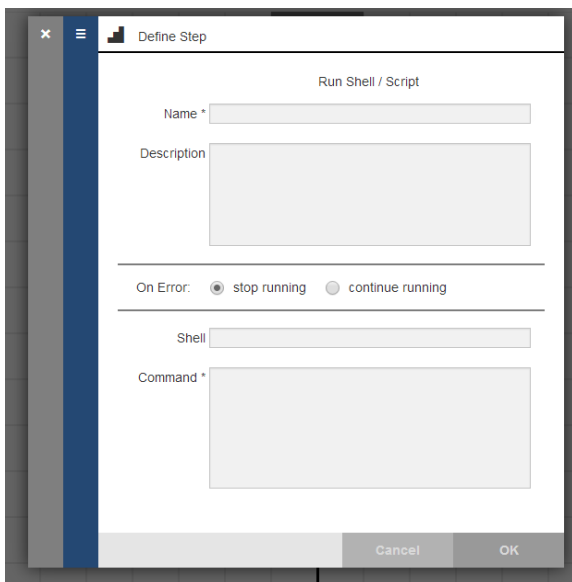


The list of ways to define the step appears.



16. In this scenario, select the **Command** option.

The Define Step dialog box with shell and command fields opens.

The image shows a 'Define Step' dialog box with a title bar containing a close button and a menu icon. The main area is titled 'Run Shell / Script'. It contains a 'Name *' text field, a 'Description' text area, and an 'On Error:' section with two radio buttons: 'stop running' (selected) and 'continue running'. Below this is a 'Shell' text field and a 'Command *' text area. At the bottom right are 'Cancel' and 'OK' buttons.

Define Step

Run Shell / Script

Name *

Description

On Error: ☒ stop running ☐ continue running

Shell

Command *

Cancel OK

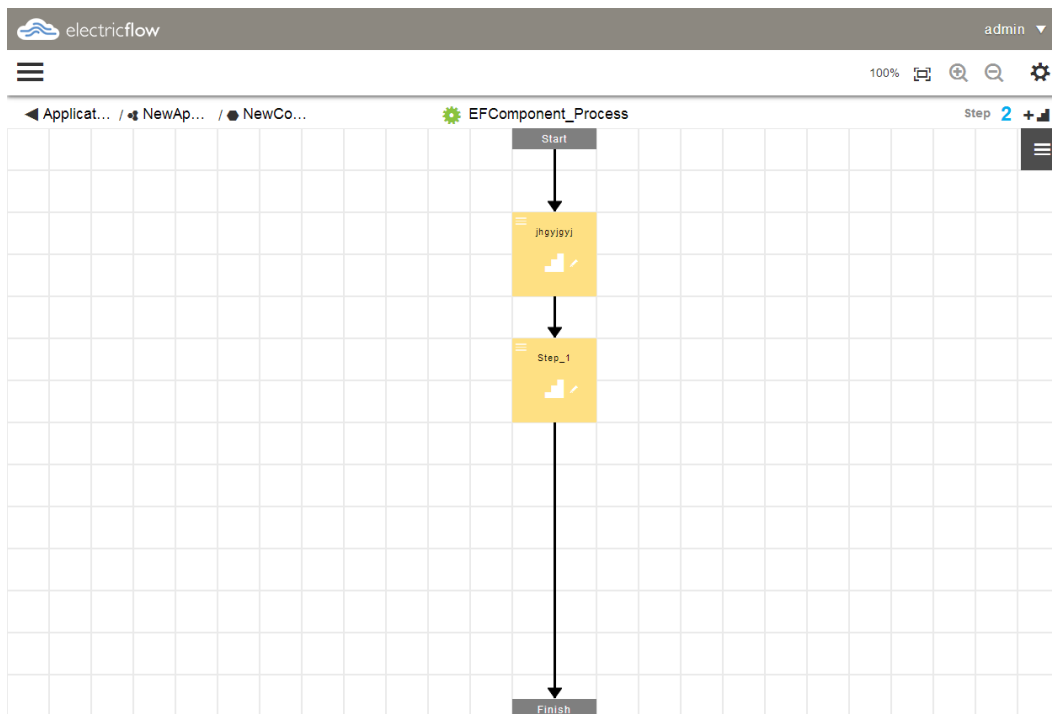
17. Enter the name of the step in the Name field.
18. (Optional) Enter a description of the step in the Description field.
19. Select **stop running** or **continue running** as the On Error option.

When you select **stop running**, ElectricFlow stops the job if an error occurs.

When you select **continue running**, ElectricFlow continues to run the job if an error occurs.

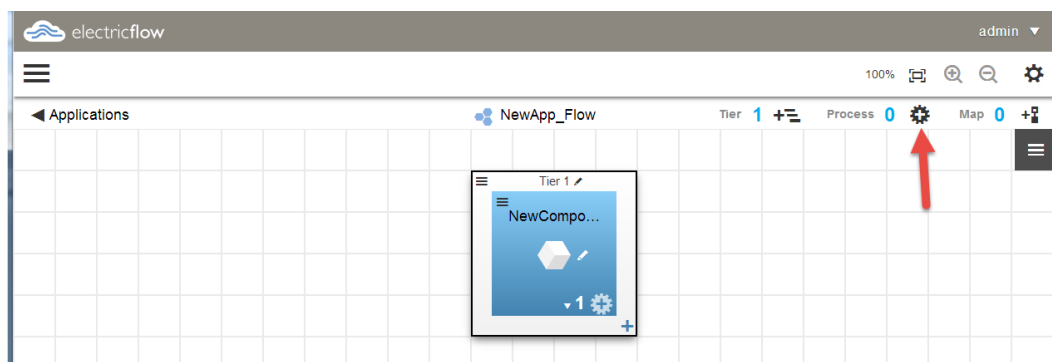
20. Click **OK**.

The Component Process page appears with the new information.



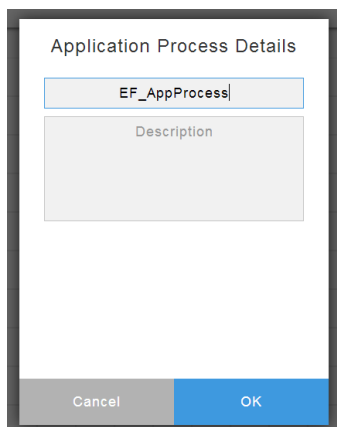
21. Go to the Applications page for the application that you created.

22. Click the Process icon to create an application process.



The Application Process Details dialog box appears.

23. Enter the name of the process in the Name field.

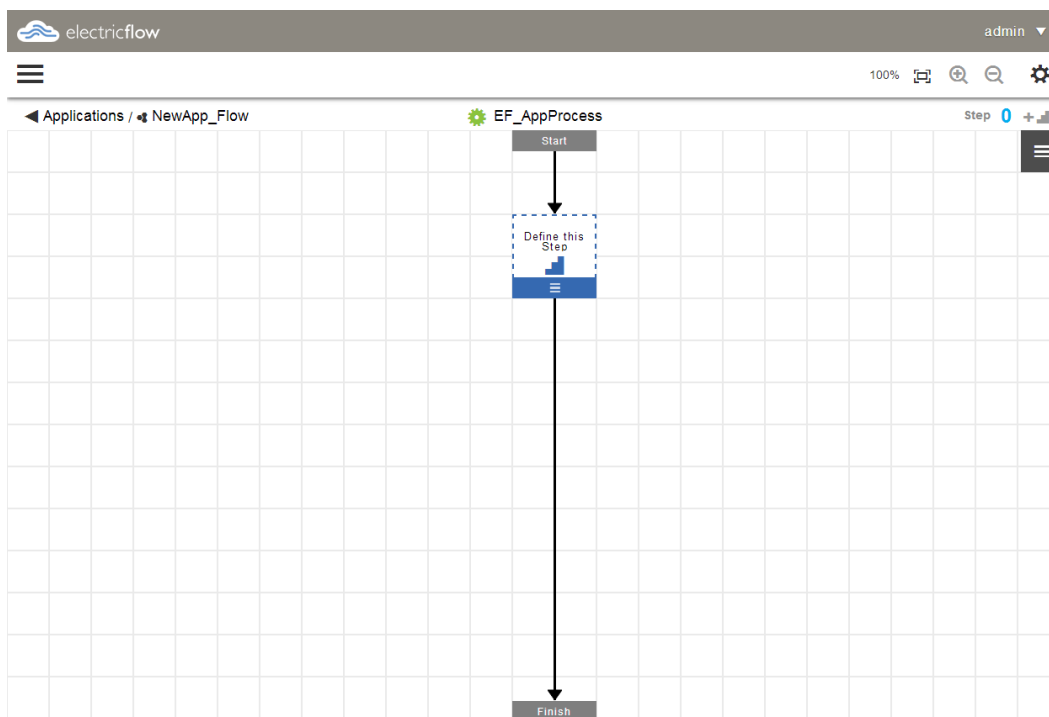


The dialog box titled "Application Process Details" contains a text input field with the text "EF_AppProcess" and a larger text area labeled "Description". At the bottom, there are "Cancel" and "OK" buttons.

24. (Optional) Enter the description of the process in the Description field.

25. Click **OK**.

The Application Process Architecture page appears.

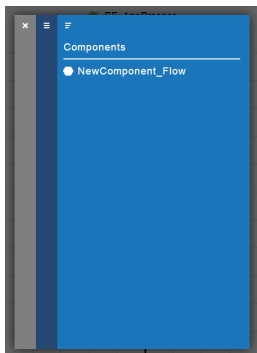


26. Click the icon in the step to define it.

The list of ways to define the step appears.

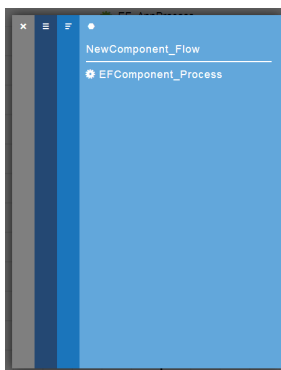
27. In this scenario, select the **Components** option.

The list of supported components appears.



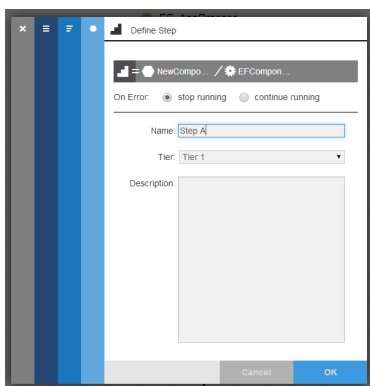
28. Select the component that you created.

A dialog box showing the component processes for that component appears.



29. Select a component process.

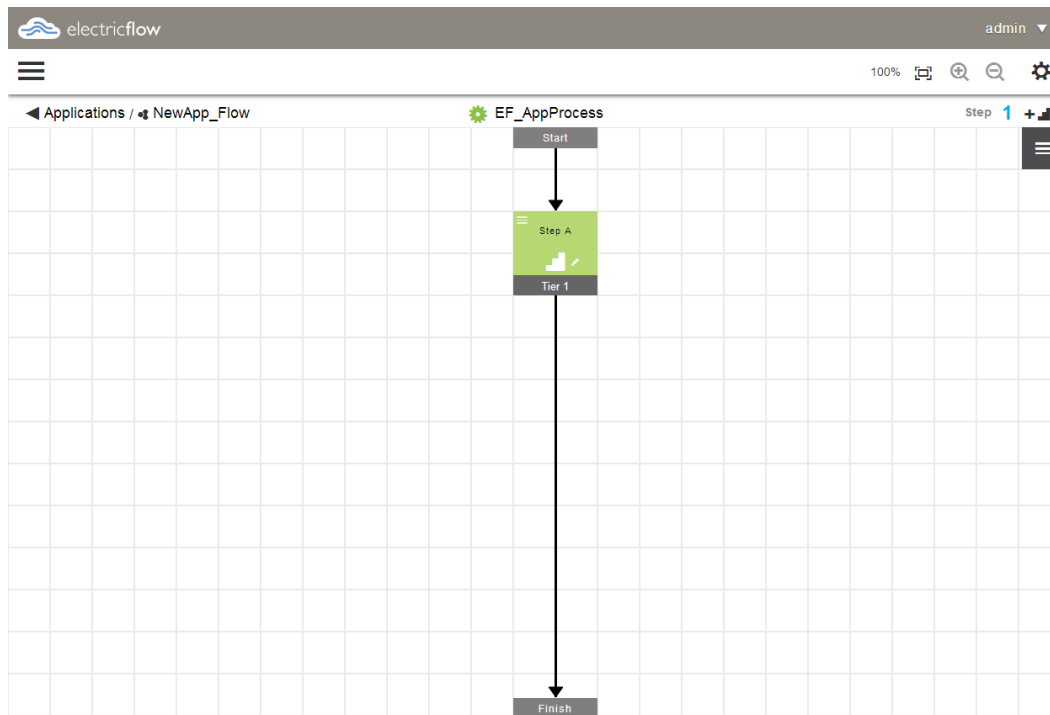
The Define Step dialog box with the component process details appears.



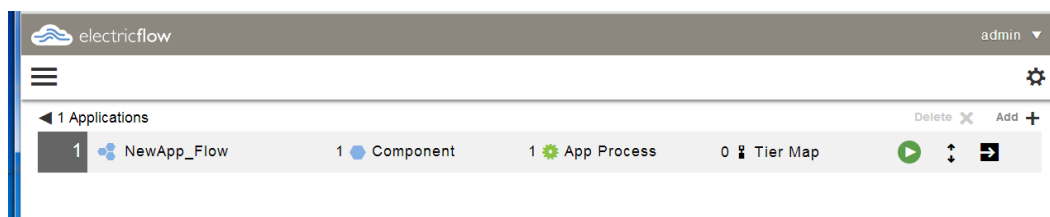
30. Enter the name of the step on the Name field, and select the On Error option.

31. (Optional) Enter the description of the step in the Description field.
32. Click **OK**.

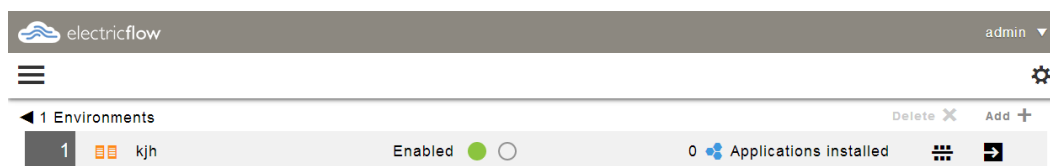
The Component Process Architecture page appears with the new step information.



33. Go the Applications page that shows the applications in your ElectricFlow system.

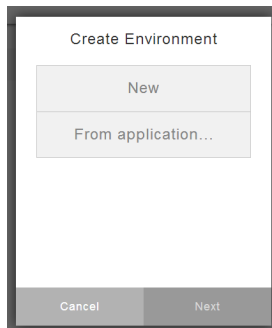


34. Go to the Environments page.



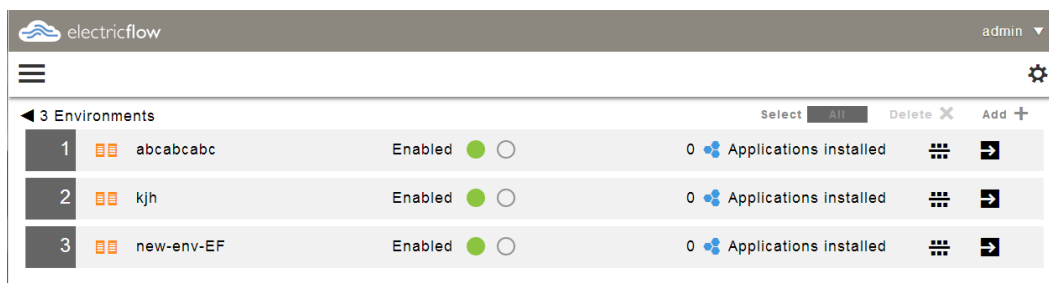
35. Click the plus sign next to Add to create an environment.

The Create Environment dialog box appears.



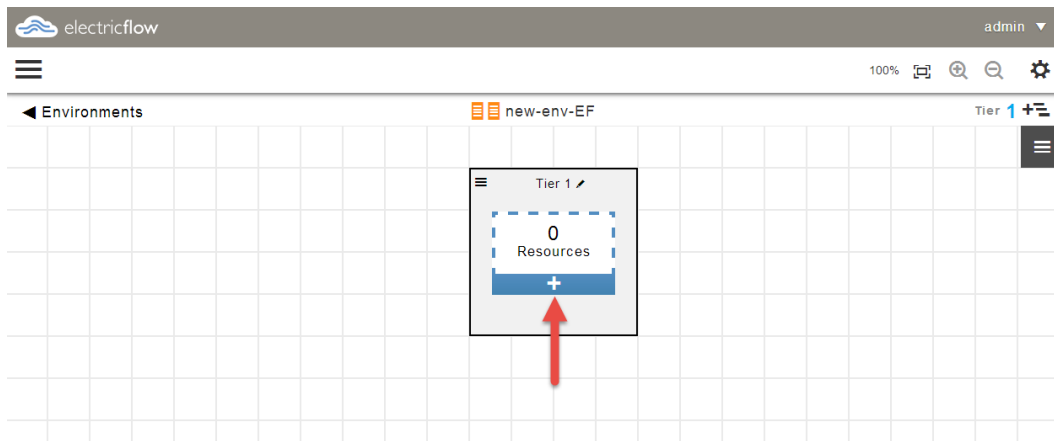
36. Select **New** or **From application**. Configure the environment as described in the subsequent dialog boxes. Go to [Creating Environments](#) for more information.

The Environments page appears with the new environment.

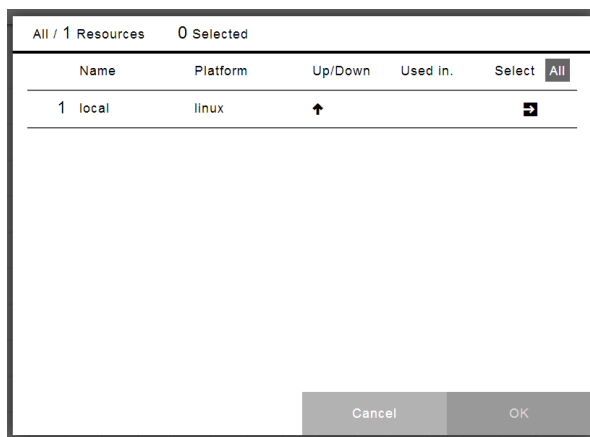


37. Go to the Environments page.

38. Click on the plus sign in the Tier 1 box.

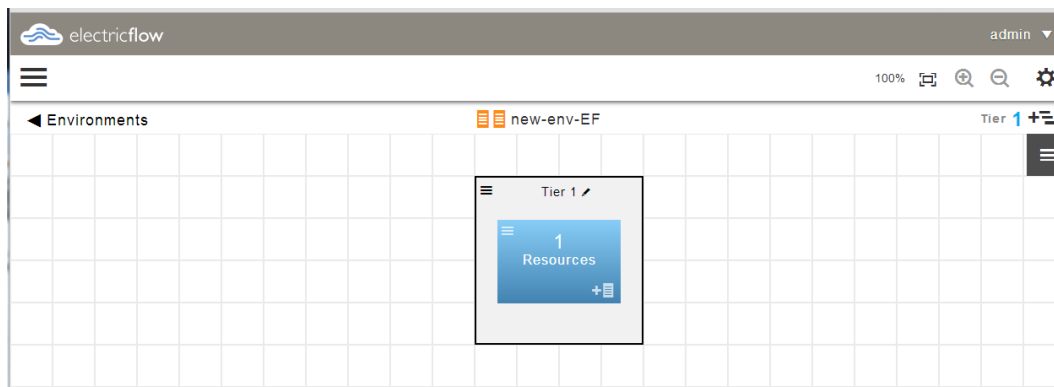


The Environments inventory dialog box opens.

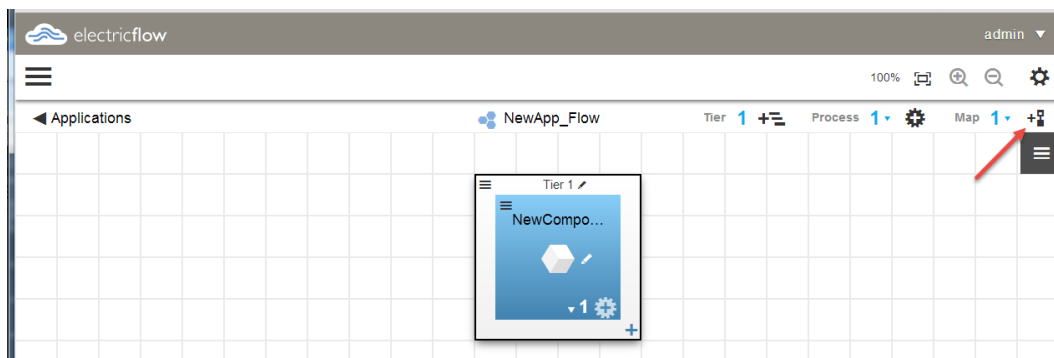


39. Select a resource and click OK.

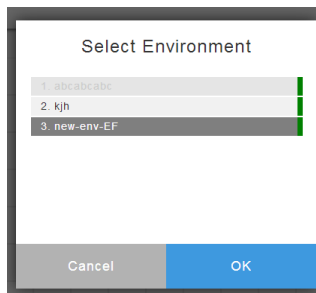
The Environments page appears with the new resource information.



40. In the Applications page, click the Map icon to create a tier map.



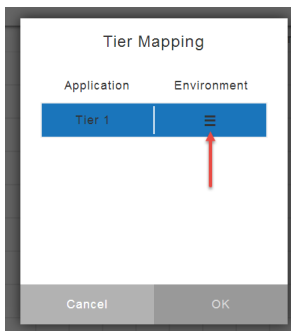
The Select Environment dialog box opens.



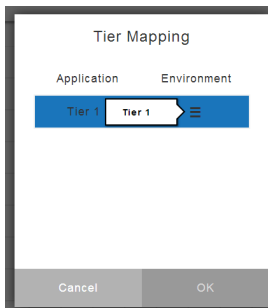
41. Select the environment that you created, and click **OK**.

The Tier Mapping dialog box opens.

42. Click in the Environment field.

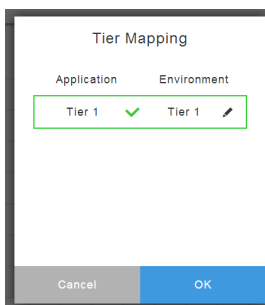


The available tiers for the environment appear.



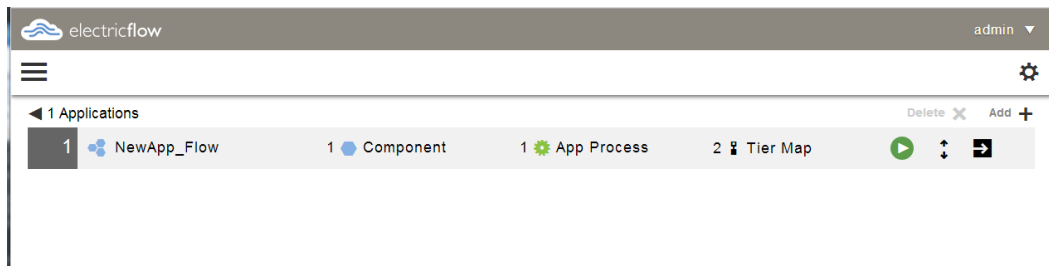
43. Select the tier that will be mapped to the application tier.

The Tier Mapping dialog box shows the application tier-to-environment tier mapping.



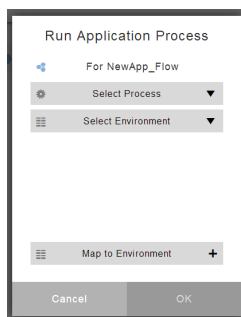
44. Click **OK**.

45. Go to the Applications page.

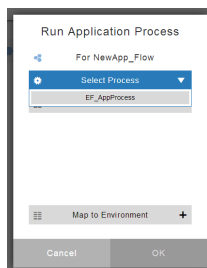


46. Click on the Run Process icon to start the process.

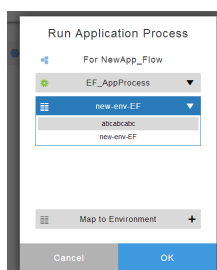
The Run Application Process dialog box opens.



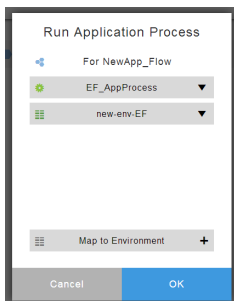
47. Click the down arrow in the Select Process field and select the application process that you configured.



48. Click the down arrow in the Select Environment field and select the environment that you configured.



49. Click **OK**.



The process runs.

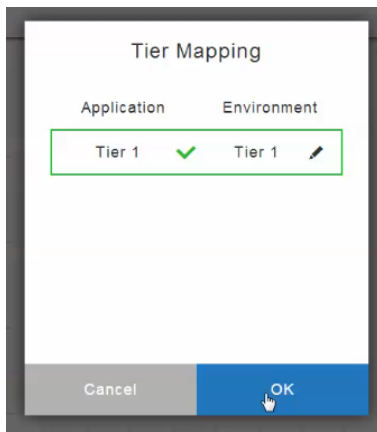
You can also run processes with applications that do not have component processes.

Example: Application Process with Successful Results

This example shows how to run an application process and check the results. The process is successfully run.

The application process is configured as follows:

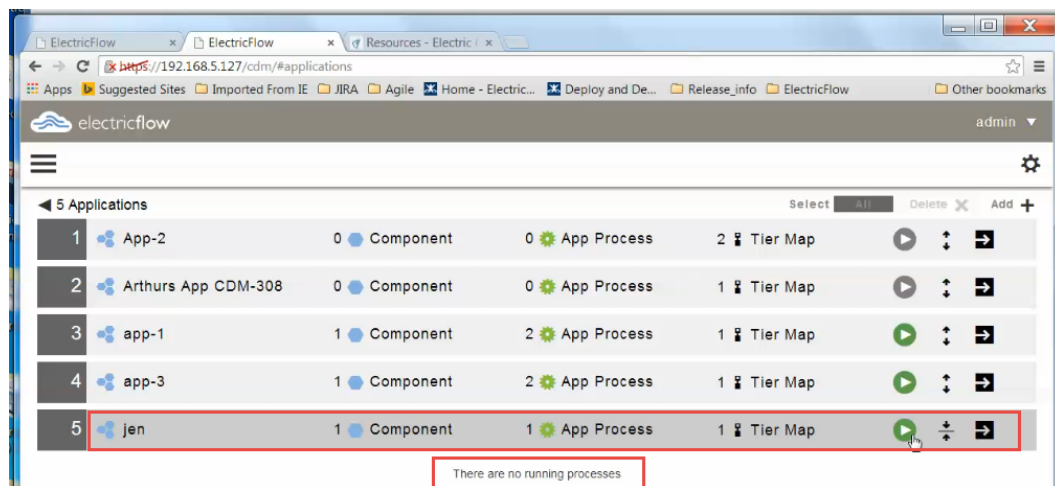
- There is a tier map between the application and an environment.
- The application process is called jen.
- The environment to which the process is mapped is called jen-env.



1. Go to the Application List page.

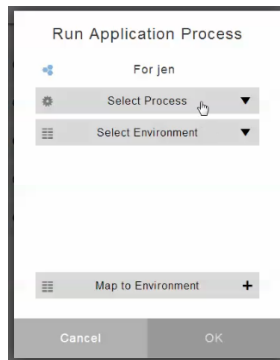
This page shows an application called jen that is ready to run.

When you mouse over the Expansion icon, this message appears: There are no running processes

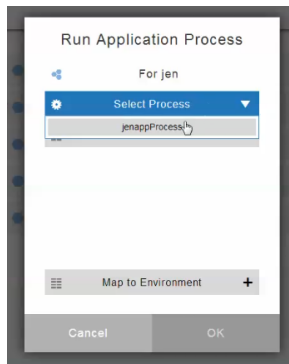


2. Click the green run-process icon.

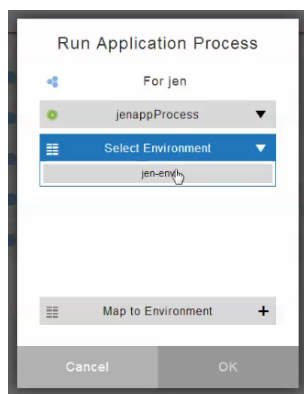
The Run Application Process dialog box appears.



3. In the Select Process field, select jenappProcess.



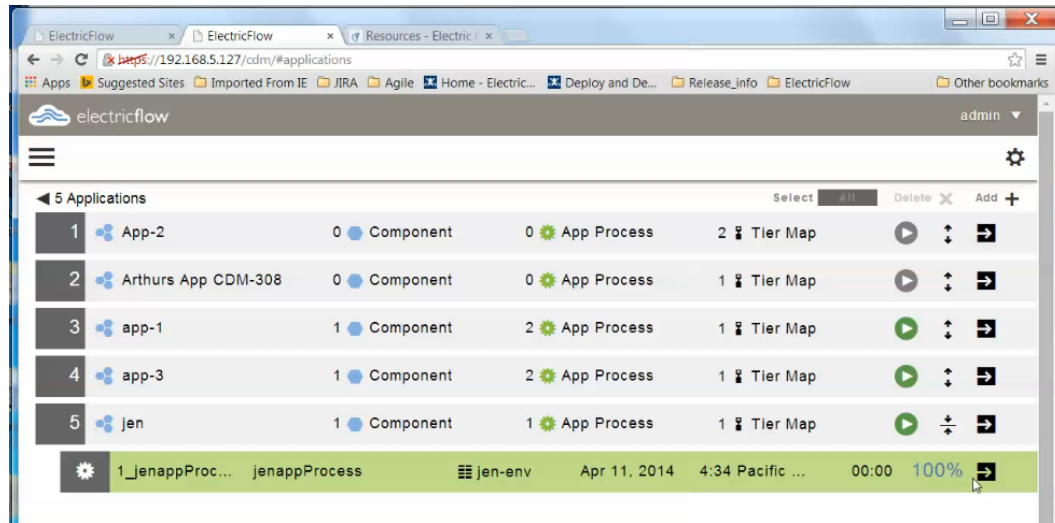
4. In the Select Environment field, select jen-env.



5. Click **OK**.

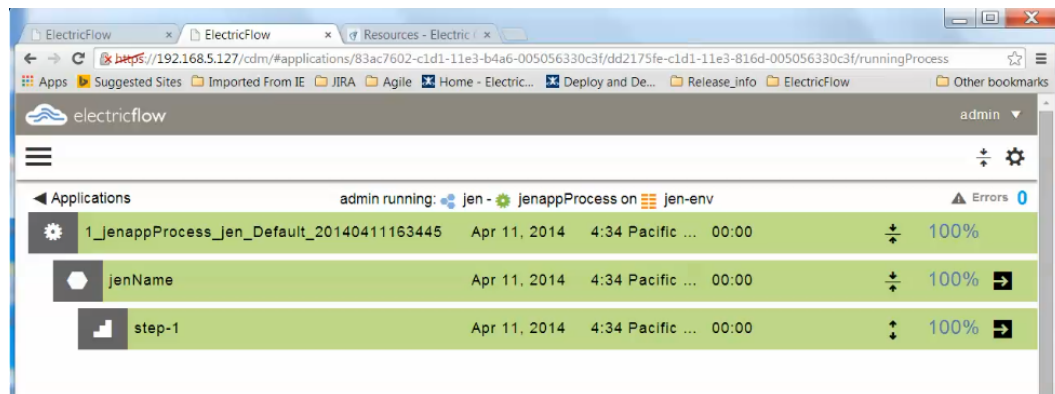
The process runs.

The Application List shows that the process was completed.



6. In the row for the application called jen, click on the arrow on the left to see more details.

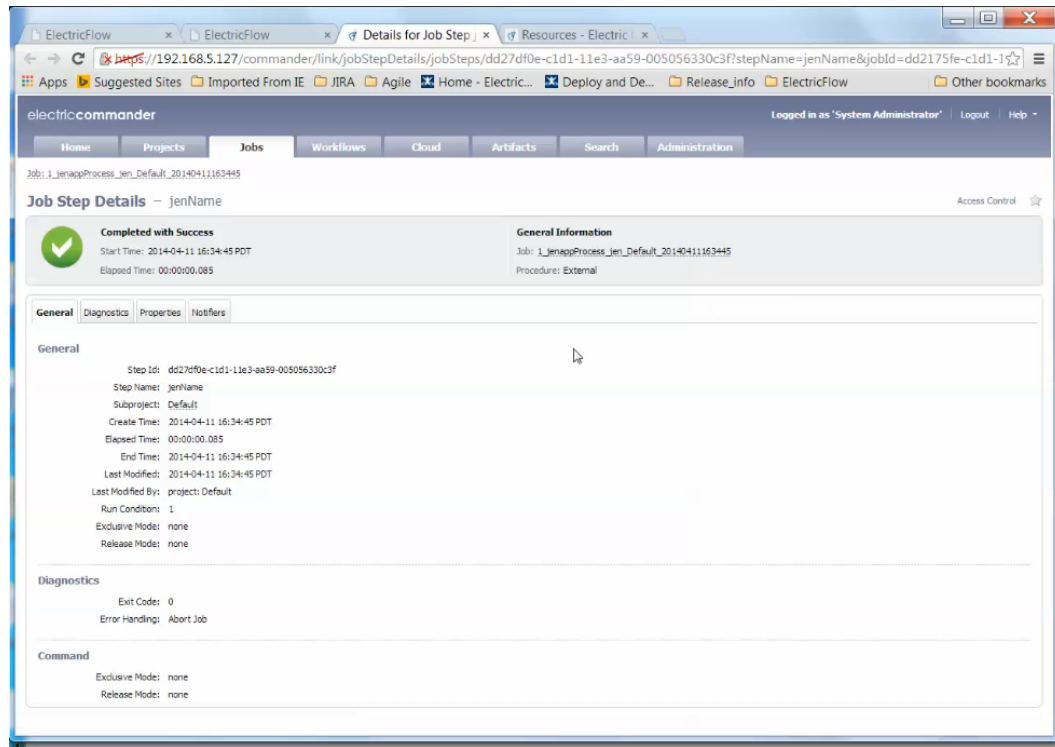
The Application List shows the details of the process as it ran.



The percentage complete is 100% for the jenappProcess process with the jenName component that has the step-1 step.

7. In the row for the jenName component, click on the right arrow to go to the Job Step Details page for jenName in ElectricCommander.

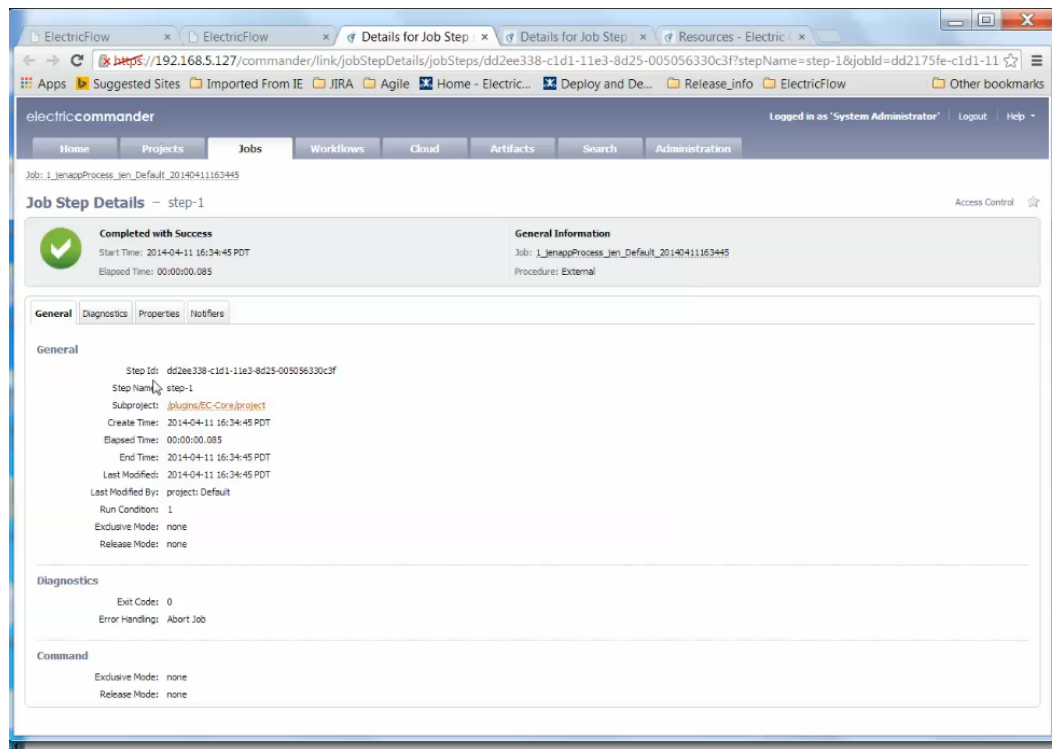
It shows what happened to the component when the job ran.



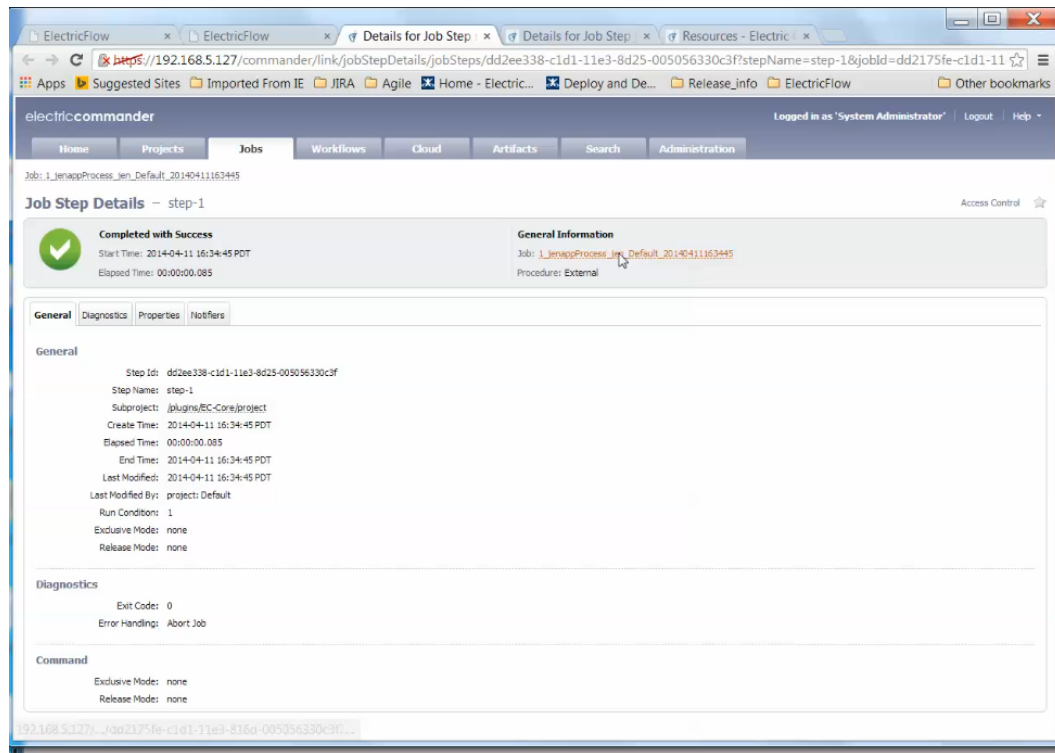
8. Return to ElectricFlow.

9. In the step row, click on the right arrow to go to the Job Step Details page in ElectricCommander.

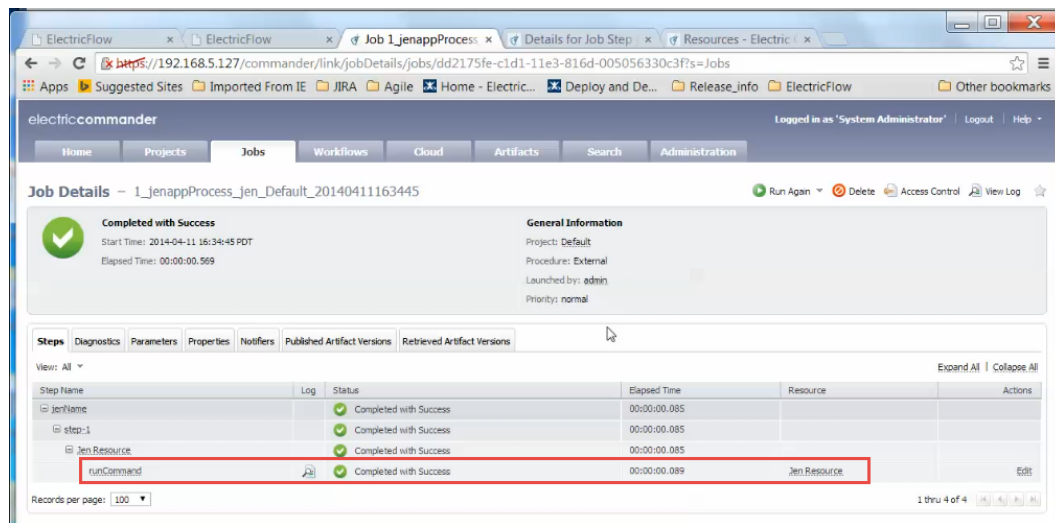
This page shows what happened to the step when the job ran.



10. For more information about the job, click on the job link in the General Information section.

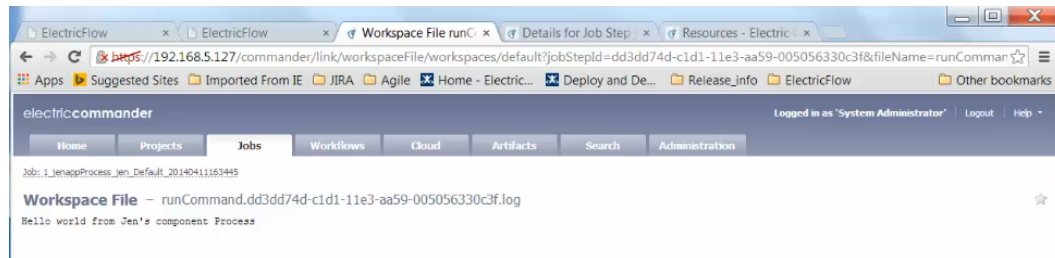


The Job Details page opens and shows more information about the job.



11. In the runCommand row, click on the magnifying glass icon to see the results of the process.

The Workspace File opens and shows the output from the component process, which is "Hello word from Jen's process component" printed on the screen.



Example: Application Process That Fails

This example shows how to run an application process and check the results. The process fails.

The application process is configured as follows:

- There is a tier map between the application and an environment.
- The application process is called JenAppProcessWithoutComp.
- The environment to which the process is mapped is called jen-env.

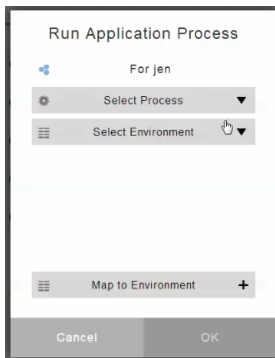
1. Go to the Application List.

This page shows an application called jen that is ready to run.

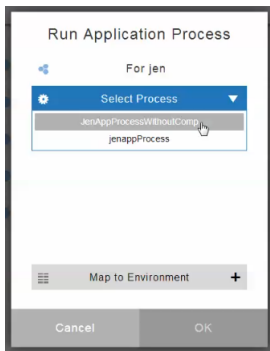
5 Applications					Select	Delete	Add
1	App-2	0 Component	0 App Process	2 Tier Map			
2	Arthurs App CDM-308	0 Component	0 App Process	1 Tier Map			
3	app-1	1 Component	2 App Process	1 Tier Map			
4	app-3	1 Component	2 App Process	1 Tier Map			
5	jen	1 Component	2 App Process	1 Tier Map			

2. Click the green run-process icon.

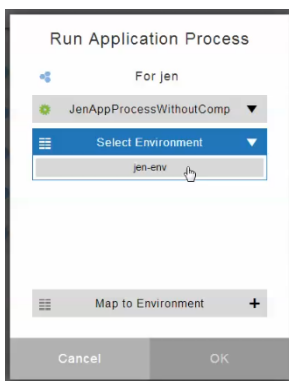
The Run Application Process dialog box opens.



3. In the Select Process field, select JenAppProcessWithoutComp.



4. In the Select Environment field, select jen-env.



5. Click **OK**.

The process starts.

The Application List appears showing the progress of the process.

Application	Component	App Process	Tier Map	Progress
1 App-2	0 Component	0 App Process	2 Tier Map	
2 Arthurs App CDM-308	0 Component	0 App Process	1 Tier Map	
3 app-1	1 Component	2 App Process	1 Tier Map	
4 app-3	1 Component	2 App Process	1 Tier Map	
5 jen	1 Component	2 App Process	1 Tier Map	
3_JenAppProcessWithoutComp	JenAppProcessWithoutComp	jen-env	Apr 11, 2014 4:39 Pacific ...	00:01 100%
2_JenAppProcessWithoutComp	JenAppProcessWithoutComp	jen-env	Apr 11, 2014 4:37 Pacific ...	00:00 100%
1_jenappProcess	jenappProcess	jen-env	Apr 11, 2014 4:34 Pacific ...	00:00 100%

6. Click the right arrow in the 3_JenAppProcessWithoutComp row to see the details.

The Application List now shows the details as the process runs.

The step-1 step passed, but the process has one error and the JenProperty step failed.

Application	Component	App Process	Tier Map	Progress
3_JenAppProcessWithoutComp_Jen_Default_20140411163925		jen-env	Apr 11, 2014 4:39 Pacific ...	00:01 50%
step-1			Apr 11, 2014 4:39 Pacific ...	00:00 100%
JenProperty			Apr 11, 2014 4:39 Pacific ...	00:00 100%

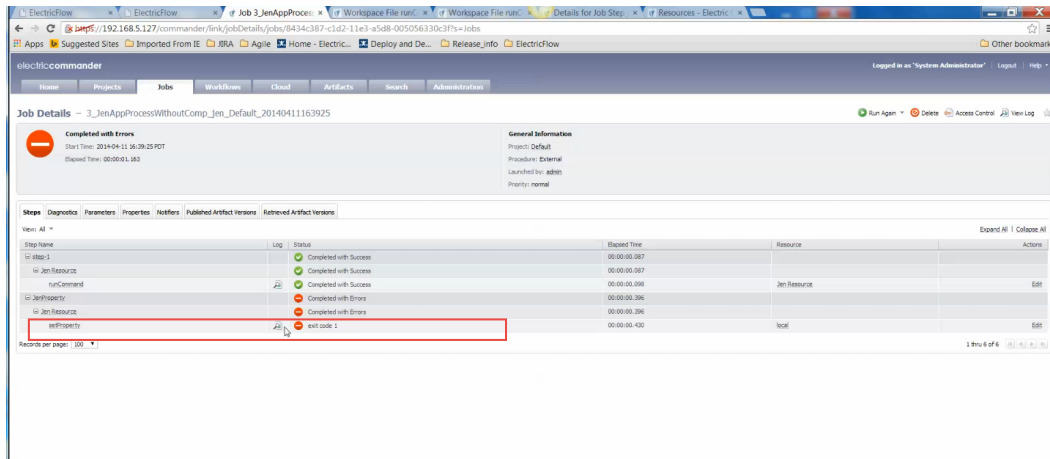
7. Click the right arrow in the JenProperty row.

The Job Step Details page opens.

Job Step Details - JenProperty
<p>Completed with Errors</p> <p>Start Time: 2014-04-11 16:39:26 PDT Elapsed Time: 00:00:09.396</p> <p>General Information</p> <p>Job: 3_JenAppProcessWithoutComp_Jen_Default_20140411163925 Procedure: External</p> <p>General</p> <p>Step ID: 640000ba-c4d2-11e3-af68-005056930c2f Step Name: JenProperty Subscript: EC-Example Create Time: 2014-04-11 16:39:25 PDT Elapsed Time: 00:00:09.396 Run Time: 2014-04-11 16:39:26 PDT Last Modified: 2014-04-11 16:39:26 PDT Last Modified By: project.Default Run Condition: 1 Exclusive Mode: none Release Mode: none</p> <p>Diagnosics</p> <p>Exit Code: 0 Error Handling: Abort Job</p> <p>Command</p> <p>Exclusive Mode: none Release Mode: none</p>

- Click the link to the job.

The Job Details page for the process appears.



- In the setProperty row, click on the magnifying glass icon to see the log file.

The Workspace File opens and shows error messages.



This step seems to have failed because the "Property is blank."

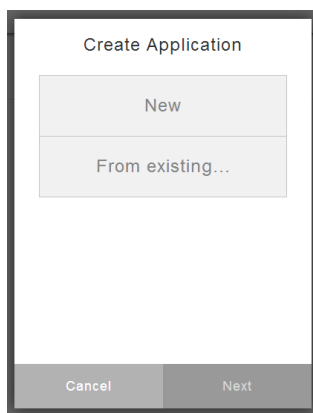
More About ElectricFlow

This section has more information and icons about the ElectricFlow user interface.

Creating Applications

The Create Application dialog box opens when you click the plus sign next to Add in the Applications page.

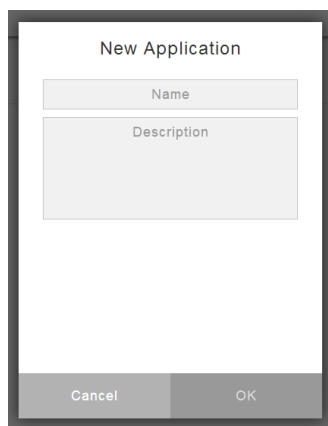
You can select either **New** or **From existing**.



If you click **New** in the Create Application dialog box, do the following:

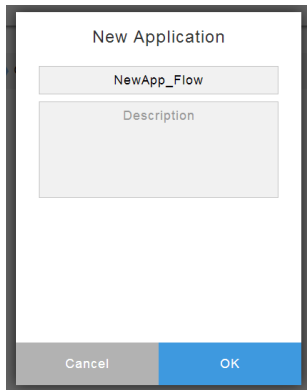
1. Click **New** and then **Next**.

The New Application dialog box opens.



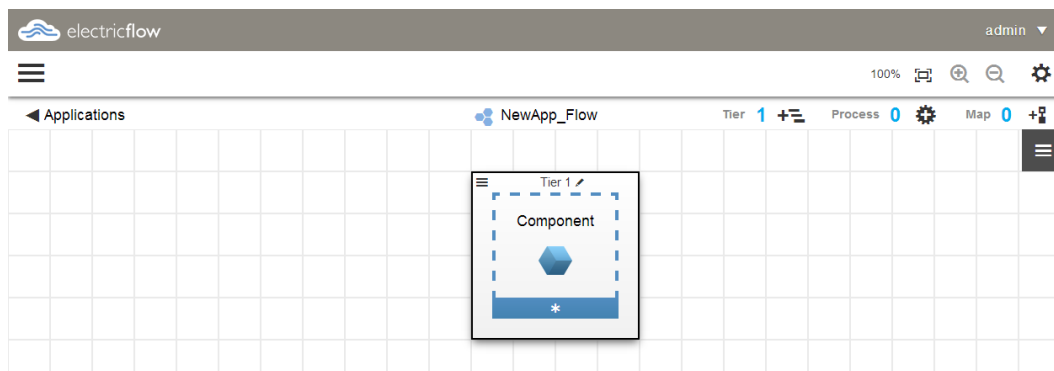
2. Enter the name of the application in the Name field.

3. (Optional) Enter a description of the application in the Description field.

A dialog box titled "New Application". It contains a text input field with the value "NewApp_Flow" and a larger text area labeled "Description". At the bottom, there are two buttons: "Cancel" and "OK".

4. Click **OK**.

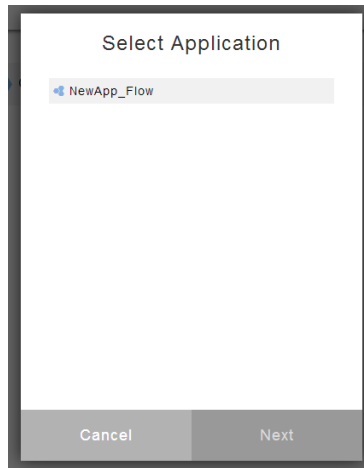
The Applications page appears.



If you click **From existing**, do the following:

1. Click **From existing** and then **Next**.

The Select Application dialog box opens.



2. Select an existing application and then click **Next**.

The New Application dialog box opens.

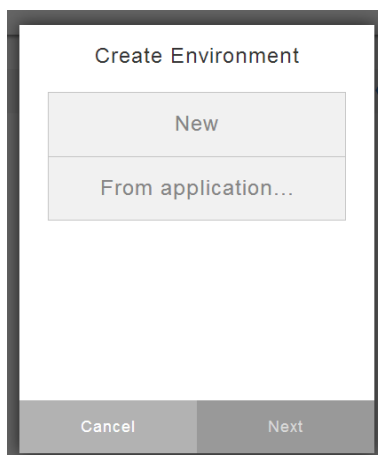
3. Enter the name of the application in the Name field.
4. (Optional) Enter a description of the application in the Description field.
5. Click **OK**.

The Applications page appears.

Creating Environments

The Create Environments dialog box opens when you click the plus sign next to Add in the Environment page.

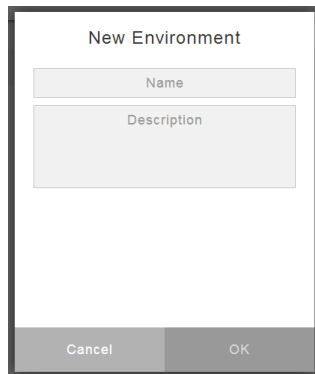
You can select either **New** or **From application**



If you click **New** in the Create Environment dialog box, do the following:

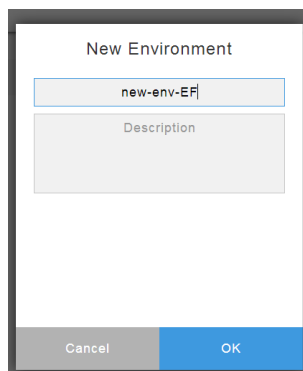
1. Click **New** and then **Next**.

The New Environment dialog box opens.



The image shows a 'New Environment' dialog box. It has a title bar at the top. Below the title bar, there are two input fields: 'Name' and 'Description'. The 'Name' field is a single-line text box, and the 'Description' field is a multi-line text box. At the bottom of the dialog box, there are two buttons: 'Cancel' and 'OK'.

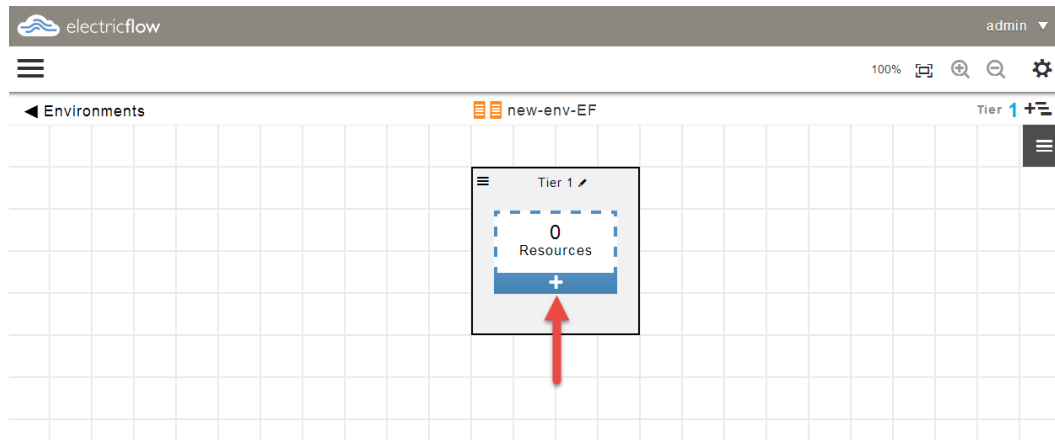
2. Enter the name of the environment in the Name field.
3. (Optional) Enter a description of the environment in the Description field.



The image shows the 'New Environment' dialog box with the 'Name' field filled with the text 'new-env-EF'. The 'Description' field is empty. The 'OK' button is highlighted in blue, indicating it is the default action.

4. Click **OK**.

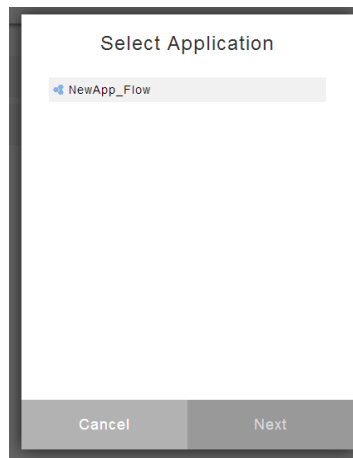
The Environments page appears.



If you click **From application**, do the following:

1. Click **From application** and then **Next**.

The Select Application dialog box opens.



2. Select an existing application and then click **Next**.

The New Environment dialog box opens.

3. Enter the name of the environment in the Name field.
4. (Optional) Enter a description of the environment in the Description field.
5. Click **OK**.

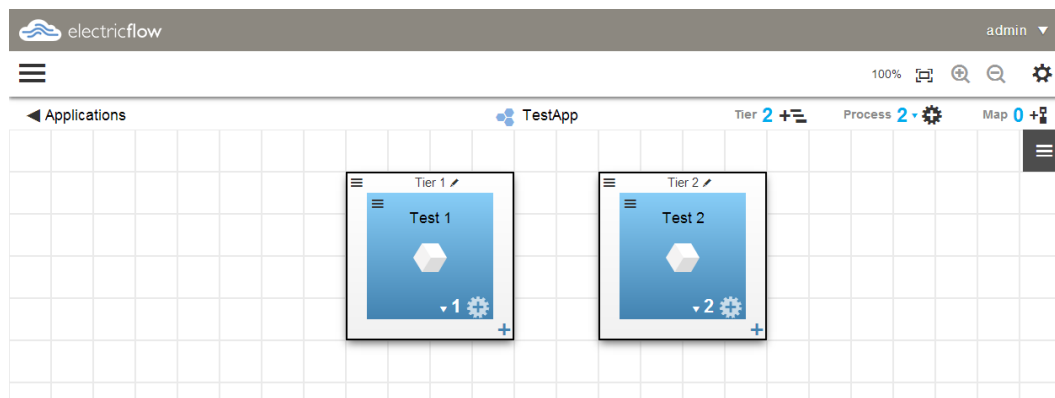
The Applications page appears.

Example: Process Steps Defined with Component Operations

This example shows how to define a process step with a component operation.

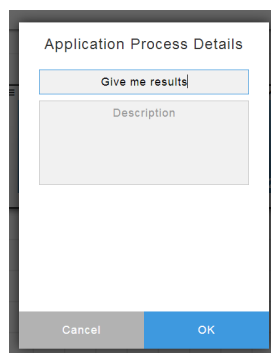
The following steps show how to define an application process step.

1. In the Applications page for an application, click the Process icon in the upper right corner next to the number of application processes.



The Application Process Details dialog box opens.

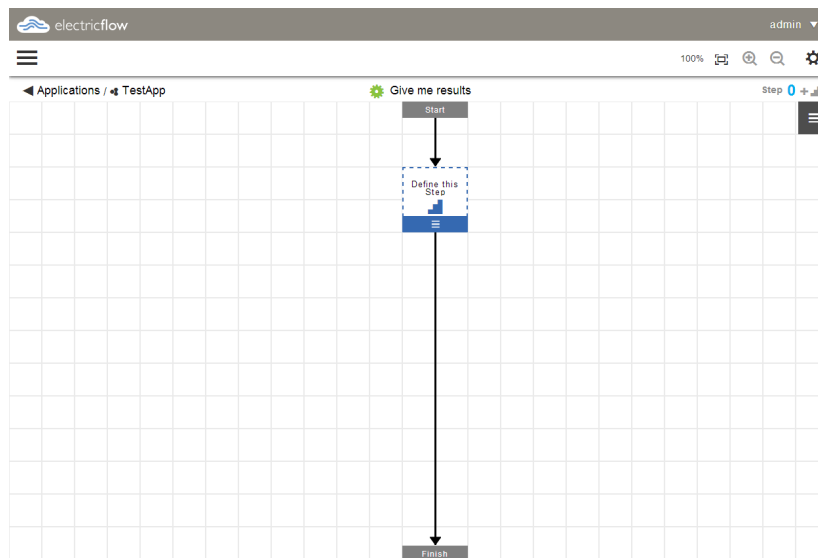
2. Enter the name of the process in the Name field, and select the process type.



3. (Optional) You can also enter a description of the process in the Description field.

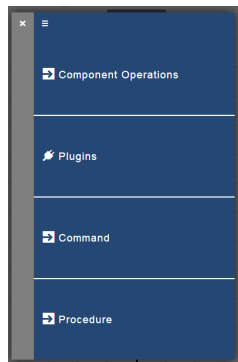
4. Click **OK**.

The Application Process page opens.



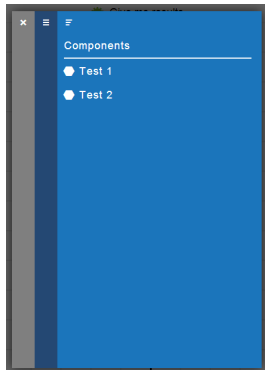
5. Click the icon below the step icon in the process step.

The list of ways to define the steps appears.



6. Select Component Operations.

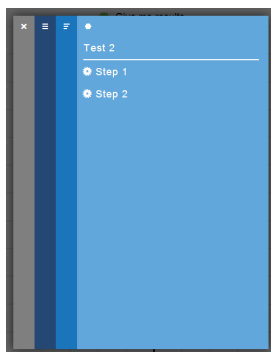
A list of components in the application appears.



7. Select an component.

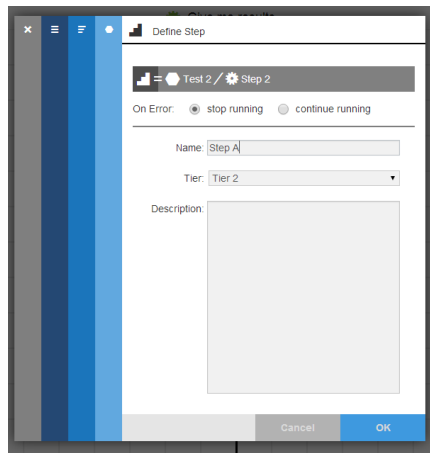
The list of processes for the selected component appear.

If Step 2 is selected, the following list of component processes appears:



8. Select a component process.

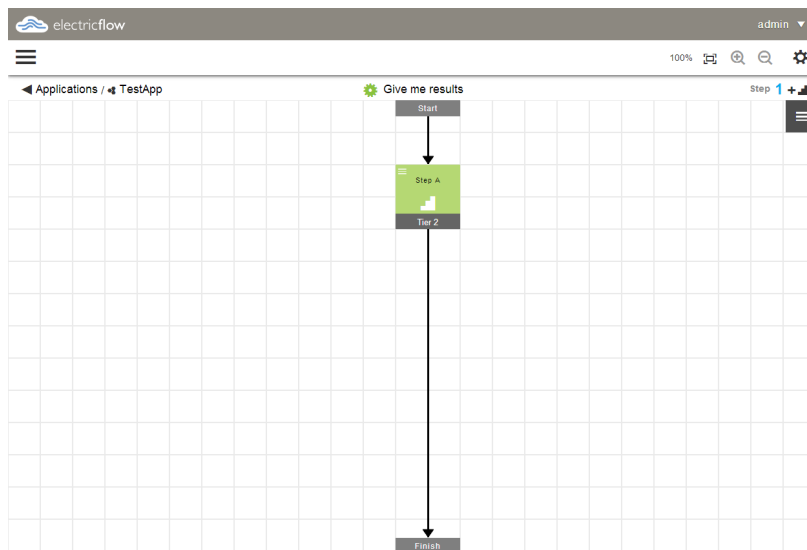
If Step 2 is selected, the following dialog box to define the step appears:



The 'Define Step' dialog box is shown. It has a title bar with a close button and a menu icon. Below the title bar, there's a header area with a gear icon and the text 'Test 2 / Step 2'. Below this, there are two radio buttons for 'On Error': 'stop running' (selected) and 'continue running'. Below that, there's a text input field for 'Name' with the value 'Step A', and a dropdown menu for 'Tier' with the value 'Tier 2'. Below these is a large text area for 'Description'. At the bottom, there are 'Cancel' and 'OK' buttons.

9. Click **OK**.

The Component Process page is updated.

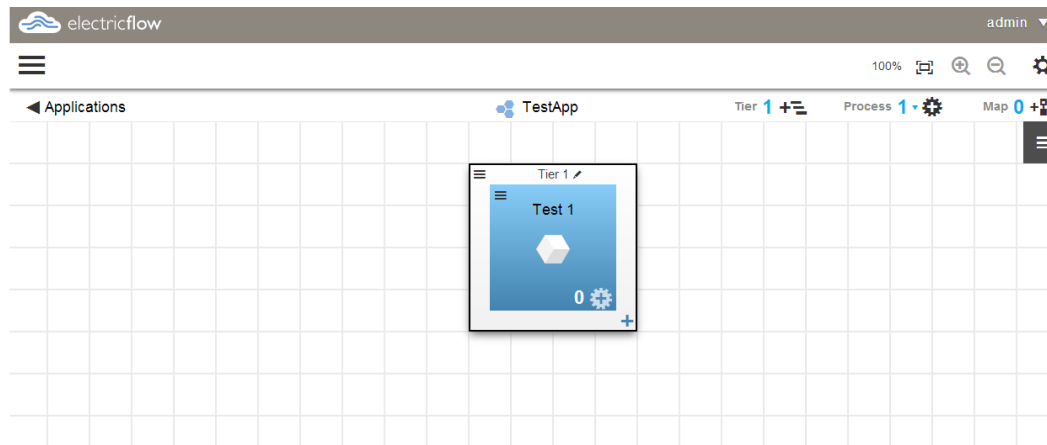


Example: Process Steps Defined with Procedures

This example shows how to define a process step with a procedure.

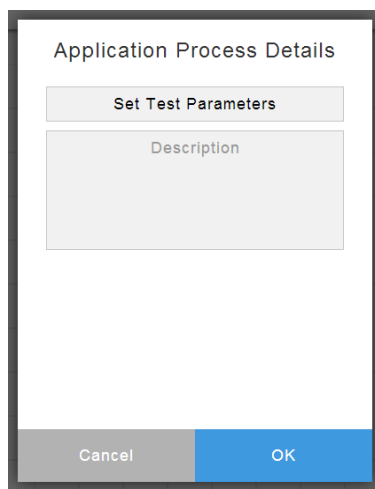
The following steps show how to define an application process step.

1. In the Applications page for an application, click the Process icon in the upper right corner next to the number of application processes.



The Application Process Details dialog box opens.

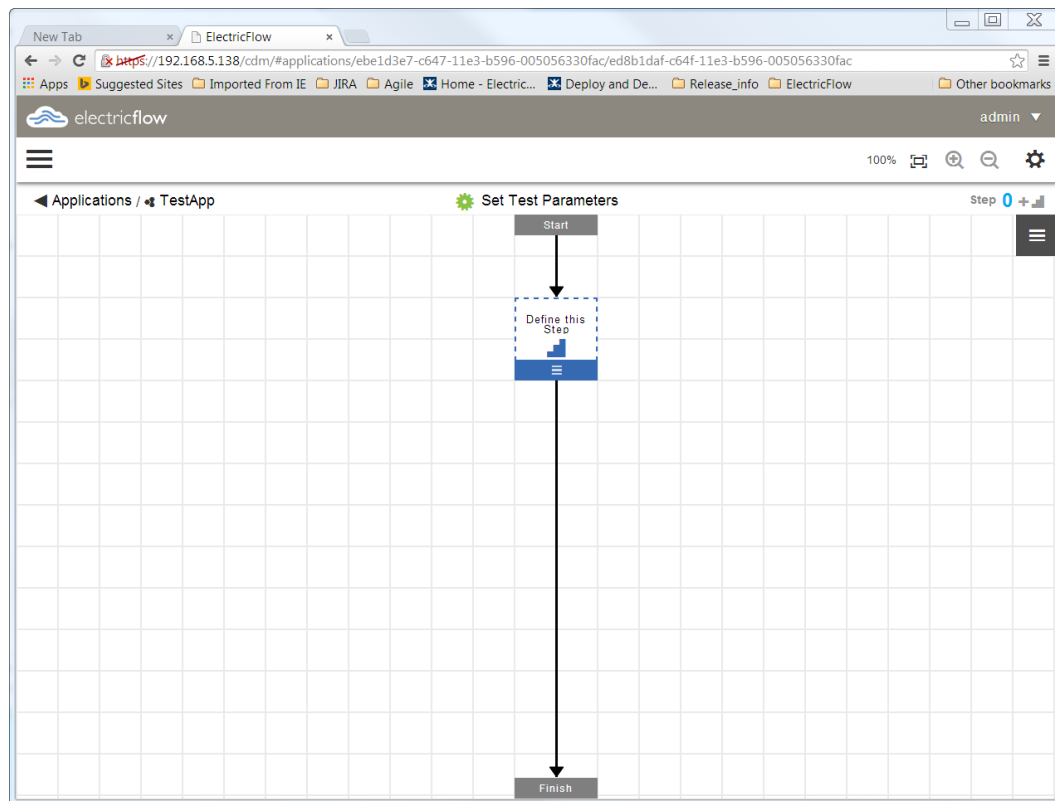
2. Enter the name of the process in the Name field.



3. (Optional) You can also enter a description of the process in the Description field.

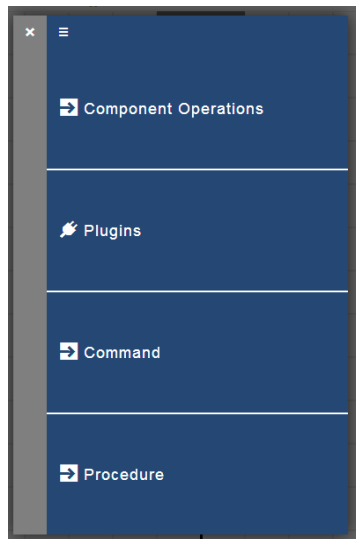
4. Click **OK**.

The Application Process page opens.



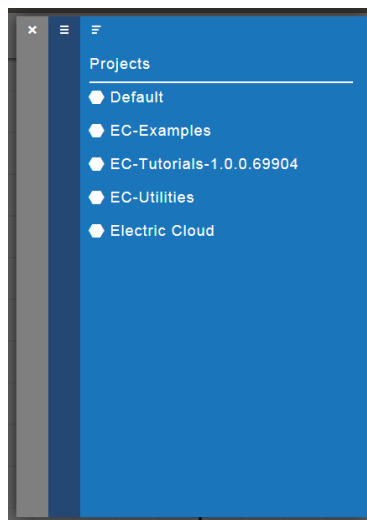
5. Click the icon below the step icon in the process step.

The list of ways to define the steps appears.



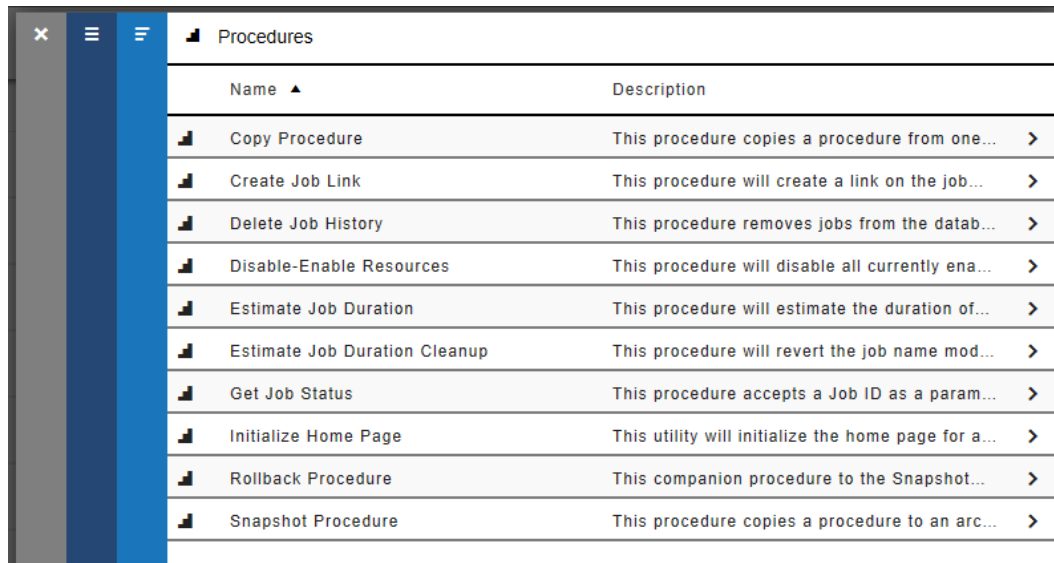
6. Select Procedure.

A list of procedure categories appears.



7. Select a category.

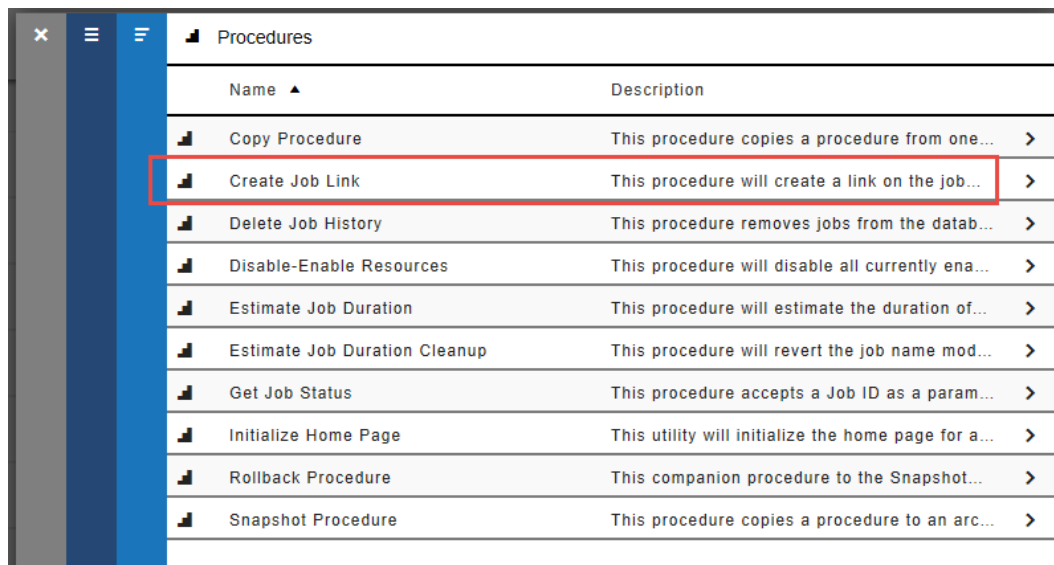
A list of procedures appears.



Procedures	
Name ▲	Description
Copy Procedure	This procedure copies a procedure from one... >
Create Job Link	This procedure will create a link on the job... >
Delete Job History	This procedure removes jobs from the datab... >
Disable-Enable Resources	This procedure will disable all currently ena... >
Estimate Job Duration	This procedure will estimate the duration of... >
Estimate Job Duration Cleanup	This procedure will revert the job name mod... >
Get Job Status	This procedure accepts a Job ID as a param... >
Initialize Home Page	This utility will initialize the home page for a... >
Rollback Procedure	This companion procedure to the Snapshot... >
Snapshot Procedure	This procedure copies a procedure to an arc... >

8. Select a procedure, such as EC-Utilities.

The procedure settings and parameters appear.



Procedures	
Name ▲	Description
Copy Procedure	This procedure copies a procedure from one... >
Create Job Link	This procedure will create a link on the job... >
Delete Job History	This procedure removes jobs from the datab... >
Disable-Enable Resources	This procedure will disable all currently ena... >
Estimate Job Duration	This procedure will estimate the duration of... >
Estimate Job Duration Cleanup	This procedure will revert the job name mod... >
Get Job Status	This procedure accepts a Job ID as a param... >
Initialize Home Page	This utility will initialize the home page for a... >
Rollback Procedure	This companion procedure to the Snapshot... >
Snapshot Procedure	This procedure copies a procedure to an arc... >

- Enter the settings and parameters.

EC-Utilities / Create Job Link

Name: Description:

Tier:

On Error: ☒ stop running ☐ continue running

Parameters

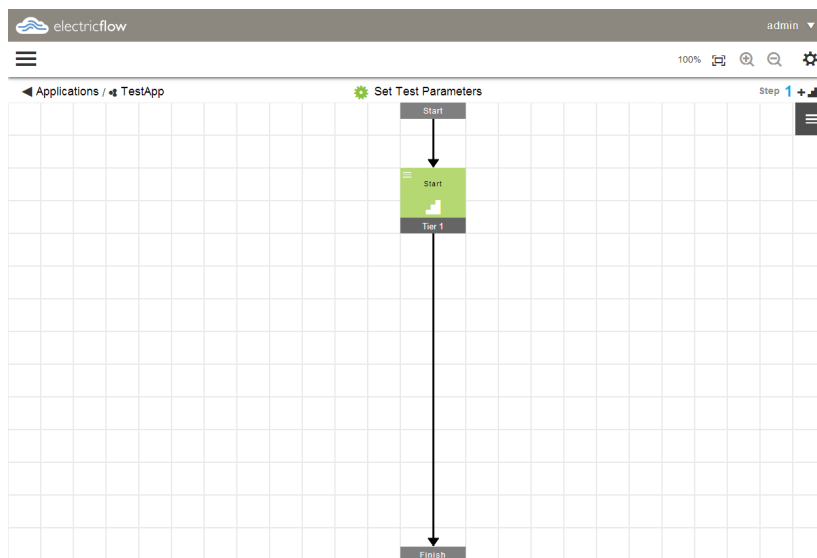
Link Label:

Link Location: Required

Cancel OK

- Click **OK**.

The Application Process page is updated.

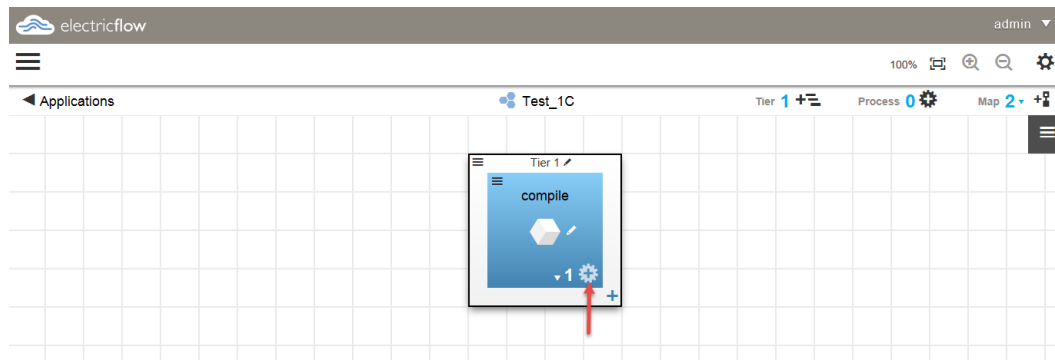


Example: Process Steps Defined with Plugins

This example shows how to define a process step with a plugin.

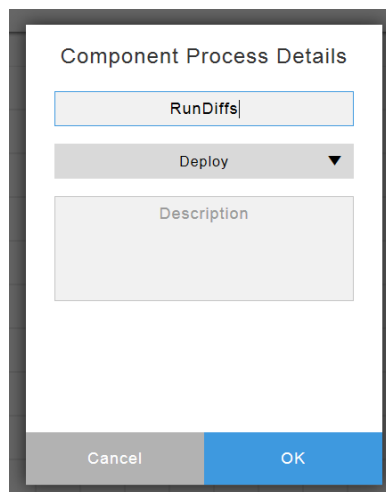
The following steps show how to define a component process step.

1. In the Applications page for an application, click the Process icon in the component.



The Component Process Details dialog box opens.

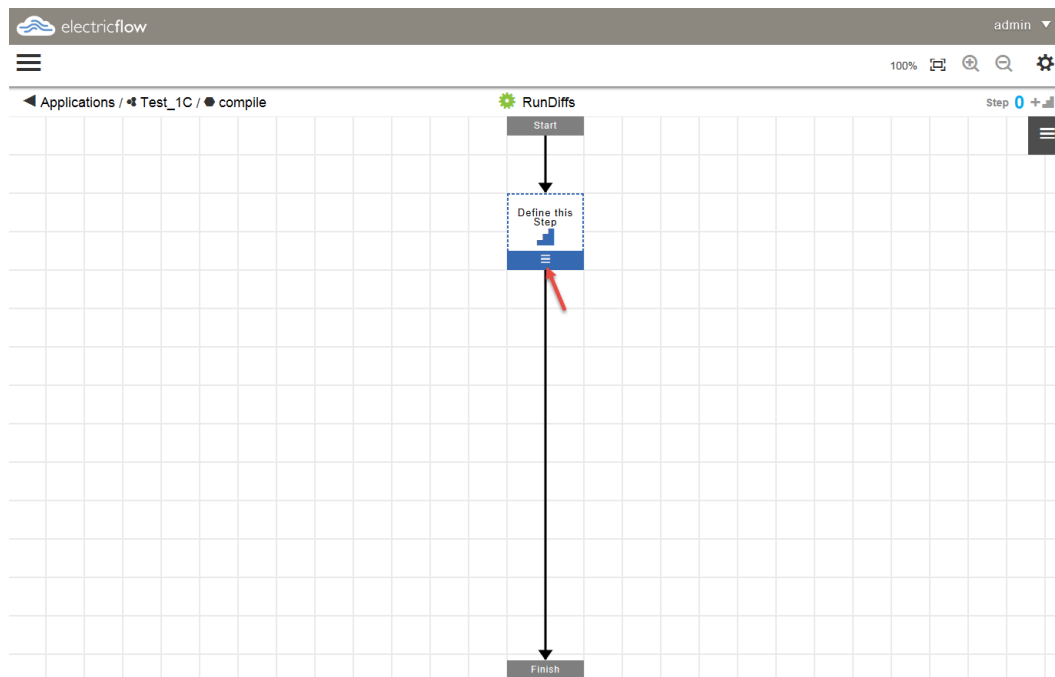
2. Enter the name of the process in the Name field, and select the process type.



3. (Optional) You can also enter a description of the process in the Description field.

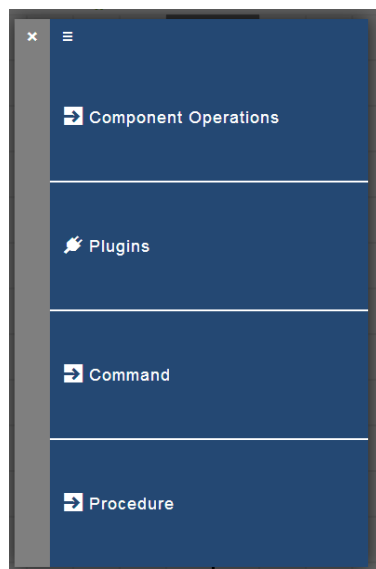
4. Click **OK**.

The Component Process page opens.



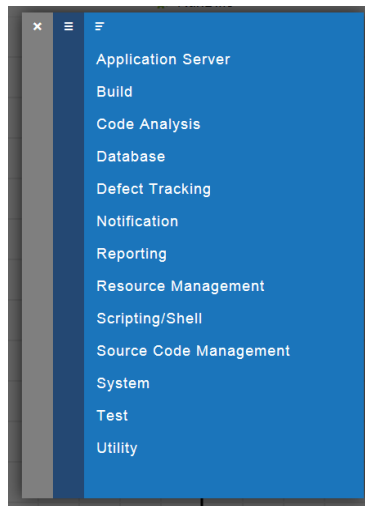
5. Click the icon below the step icon in the process step.

The list of ways to define the steps appears.



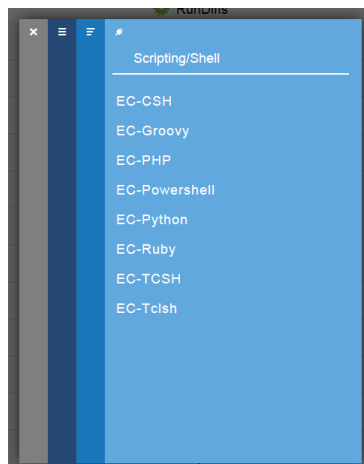
6. Select Plugins.

A list of plugin categories appears.



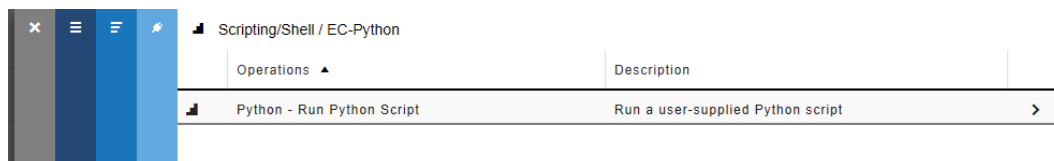
7. Select a category.

A list of subcategories appears.



8. Select a subcategory.

A list of plugins appears.



9. Select a plugin.

The plugin settings and parameters appear.

10. Enter the settings and parameters.

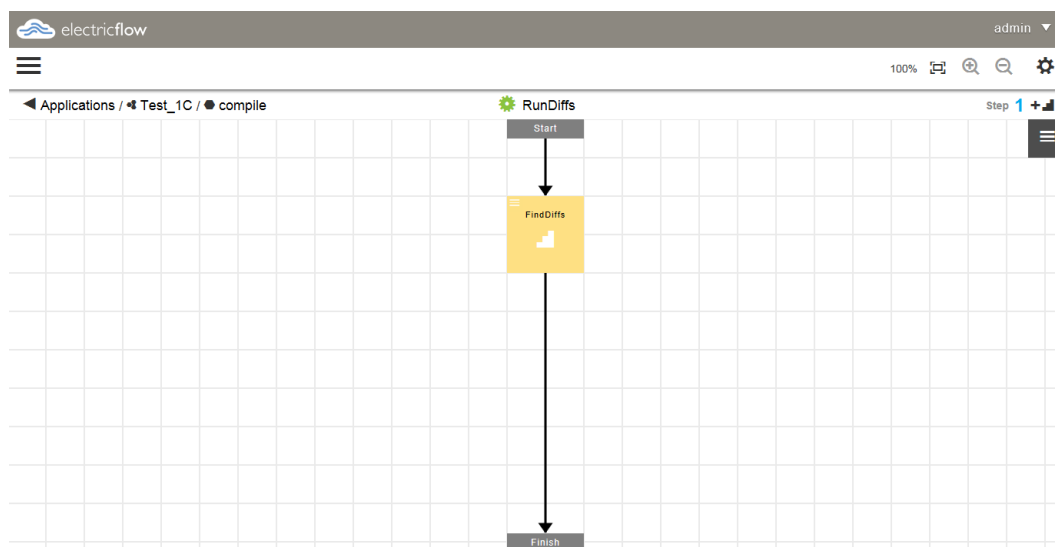
The screenshot shows a configuration window titled "Python - Run Python Script". It has a sidebar on the left with a blue bar. The main area contains the following fields and options:

- Name:** FindDiffs
- Description:** (empty text box)
- On Error:** ☒ stop running ☐ continue running
- Parameters:**
 - Python Location:** python
 - Python File:** (empty text box)
 - Script:** (empty text box)
 - Environment variables:** (empty text box)

At the bottom right, there are "Cancel" and "OK" buttons.

11. Click **OK**.

The Component Process page is updated.



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 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 Home page, click the settings icon and then click **Administration**.

The Administration tab in ElectricCommander appears.

2. Click on **Plugins**.

The Plugin Manager appears.

electriccommander Logged in as "System Administrator" Logout Help

Home Projects Jobs Workflows Cloud Artifacts Search Administration

Event Log Groups Users Licenses Directory Providers Email Configurations Database Configuration Plugins Server Source Control Defect Tracking

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.

Plugin Manager

Currently Installed Install from File/URL View Catalog

Category: All Show Promoted Plugins Only: ☐

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 Caribde'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-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 / 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.

Example: Tier Maps

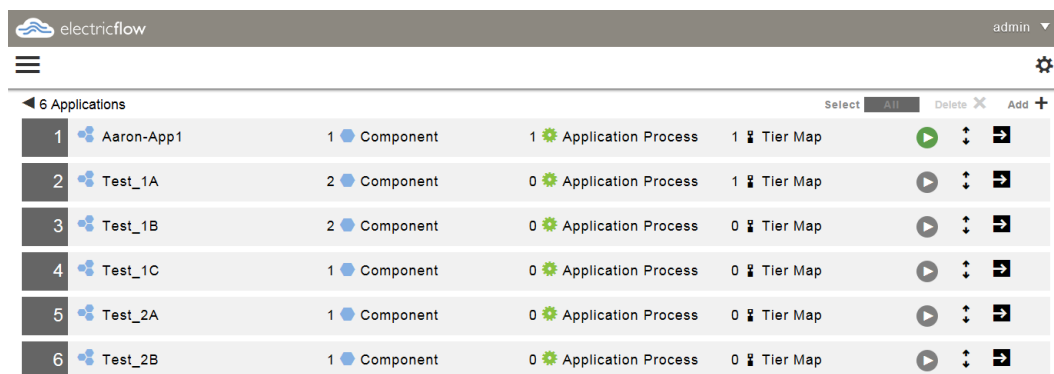
A tier map is a mapping of application tiers to environment tiers. You must configure a tier map before you run an application process in ElectricFlow. You can set tier maps between an application tier and more than one environment tier.

You can create tier maps as you configure your deployment solution, or you can create them just before you run your process. We recommend that you set tiers as you configure ElectricFlow.

This example shows how to create tier maps between an application and more than one environment. You can repeat these steps for the other applications in your solution.

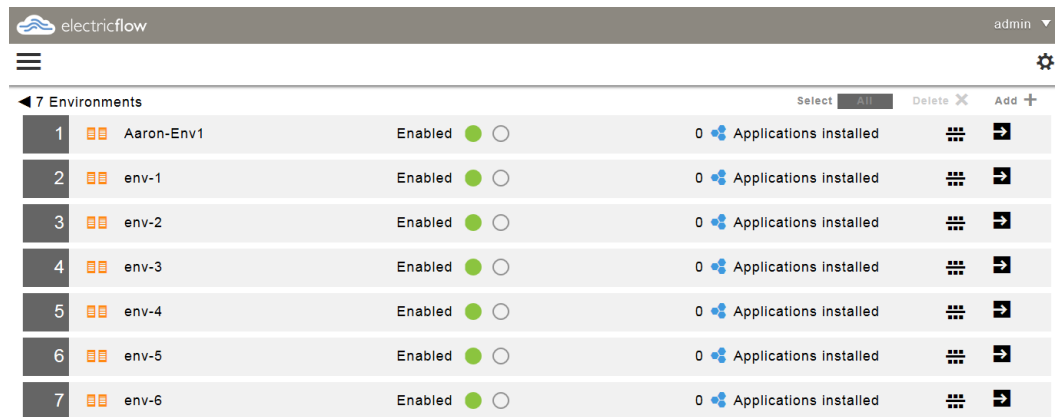
1. To see the applications and environments configured for your deployment solution, do the following:

Click **Applications** on the Home page to open the Application List.



electricflow					admin
					⚙
6 Applications					Select All Delete X Add +
1	Aaron-App1	1 Component	1 Application Process	1 Tier Map	▶ ↻ 🗑
2	Test_1A	2 Component	0 Application Process	1 Tier Map	▶ ↻ 🗑
3	Test_1B	2 Component	0 Application Process	0 Tier Map	▶ ↻ 🗑
4	Test_1C	1 Component	0 Application Process	0 Tier Map	▶ ↻ 🗑
5	Test_2A	1 Component	0 Application Process	0 Tier Map	▶ ↻ 🗑
6	Test_2B	1 Component	0 Application Process	0 Tier Map	▶ ↻ 🗑

Click **Environments** on the Home page to open the Environments List.

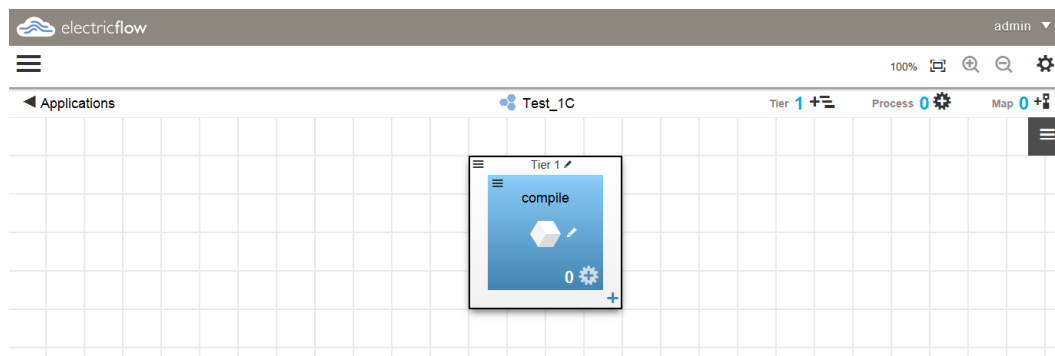


electricflow				admin
				⚙️
◀ 7 Environments				Select All Delete X Add +
1	Aaron-Env1	Enabled ●	0 Applications installed	⚙️ ▶
2	env-1	Enabled ●	0 Applications installed	⚙️ ▶
3	env-2	Enabled ●	0 Applications installed	⚙️ ▶
4	env-3	Enabled ●	0 Applications installed	⚙️ ▶
5	env-4	Enabled ●	0 Applications installed	⚙️ ▶
6	env-5	Enabled ●	0 Applications installed	⚙️ ▶
7	env-6	Enabled ●	0 Applications installed	⚙️ ▶

2. In the Application List, select an application and click on the application name, such as Test_1C.

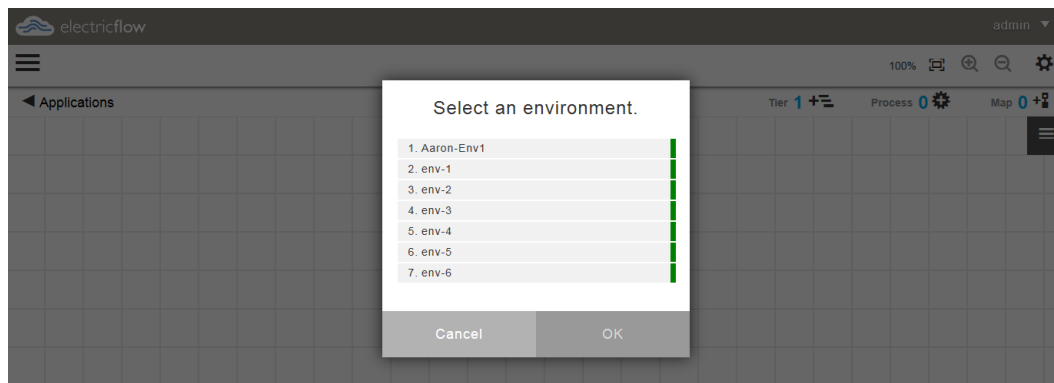
The Applications page opens.

There are no tier maps configured for the selected application. The number next to the Tier Map icon in the upper right corner is zero.



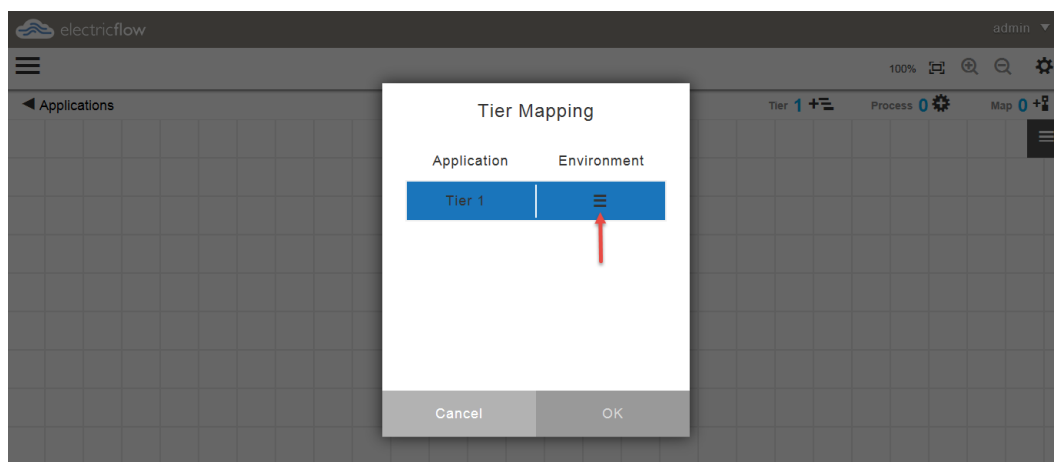
3. Click on the Tier Map icon.

The "Select an environment" dialog box opens.



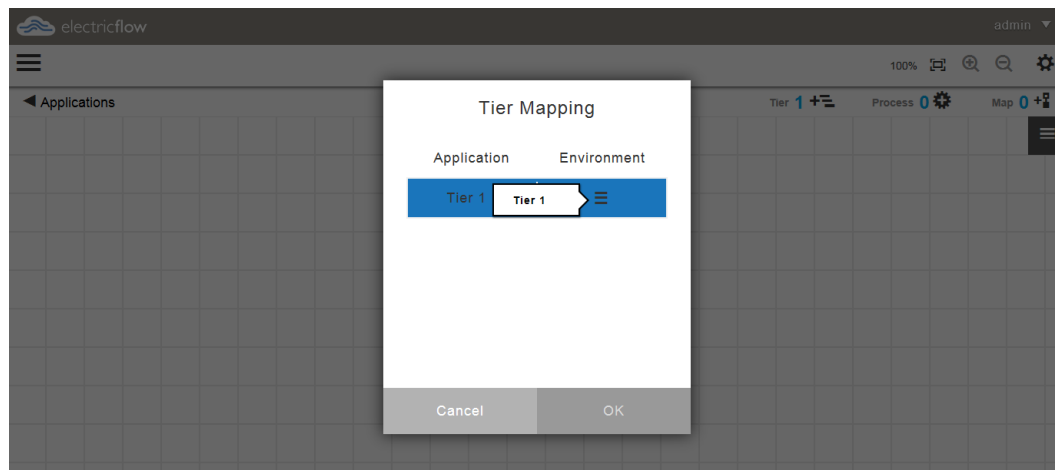
4. Select an environment, such as env-2.
5. Click **OK**.

The Tier Mapping dialog box opens.



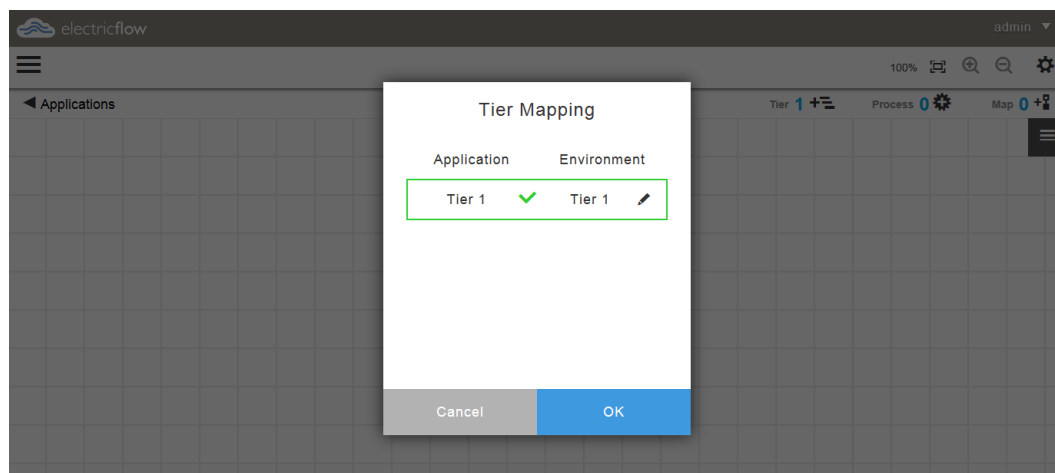
- Click in the cell in the Environment that corresponds to the application tier.

A list of tiers for the environment (env-2) appears.



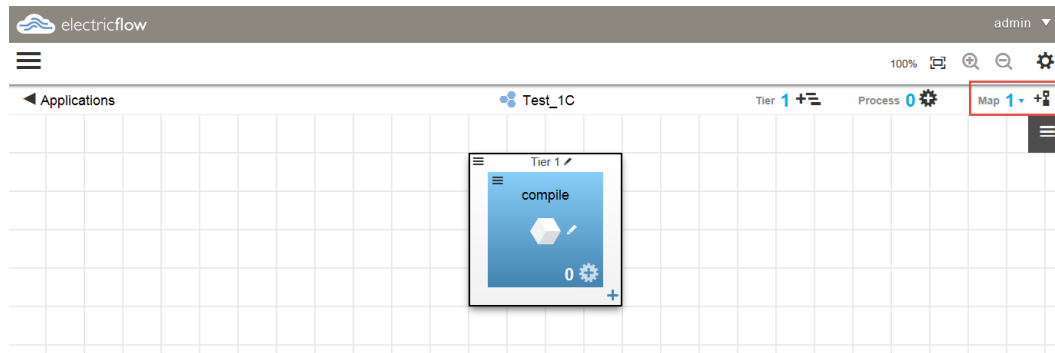
- Select one of the tiers.

The Tier Mapping dialog box is updated.



8. Click **OK**.

The Applications page appears and now shows there is one tier map instead of zero.



9. Click on the Tier Map icon.

The "Select an environment" dialog box opens.

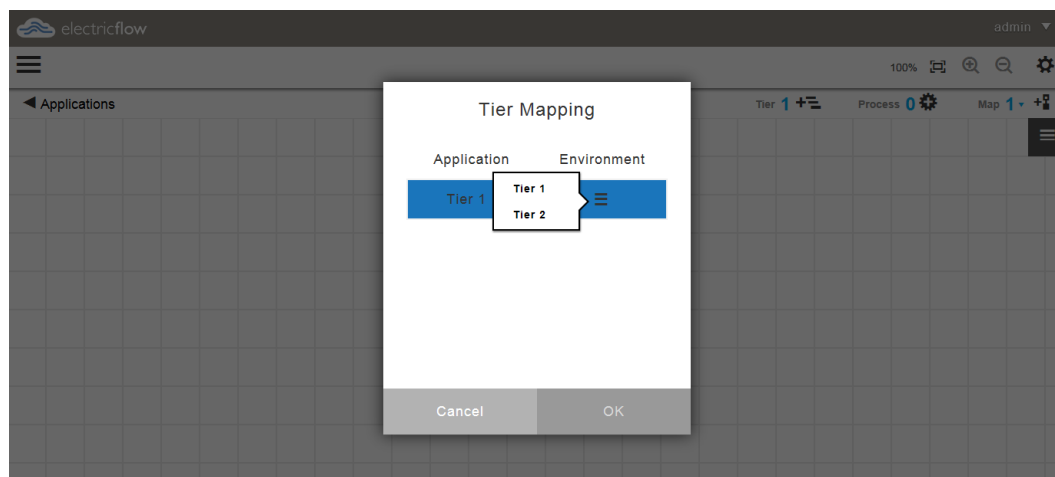
10. Select an environment, such as env-6.

11. Click **OK**.

The Tier Mapping dialog box opens.

12. Click in the cell in the Environment that corresponds to the application tier.

A list of tiers for the environment (env-6) appears.

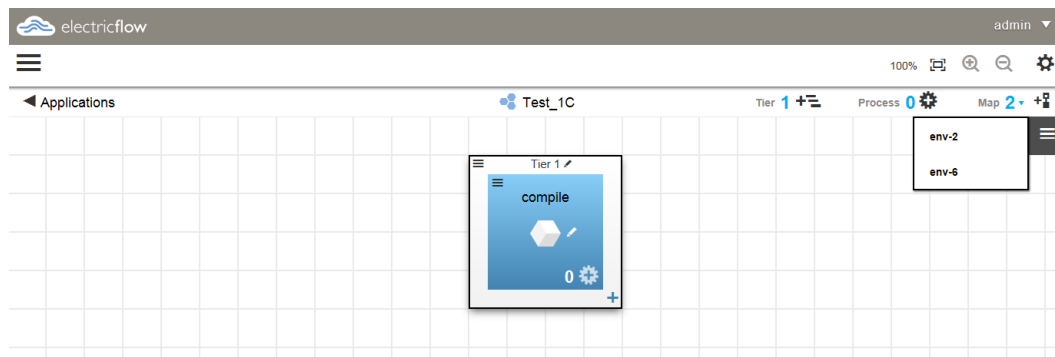


13. Select one of the tiers, such as Tier 2.

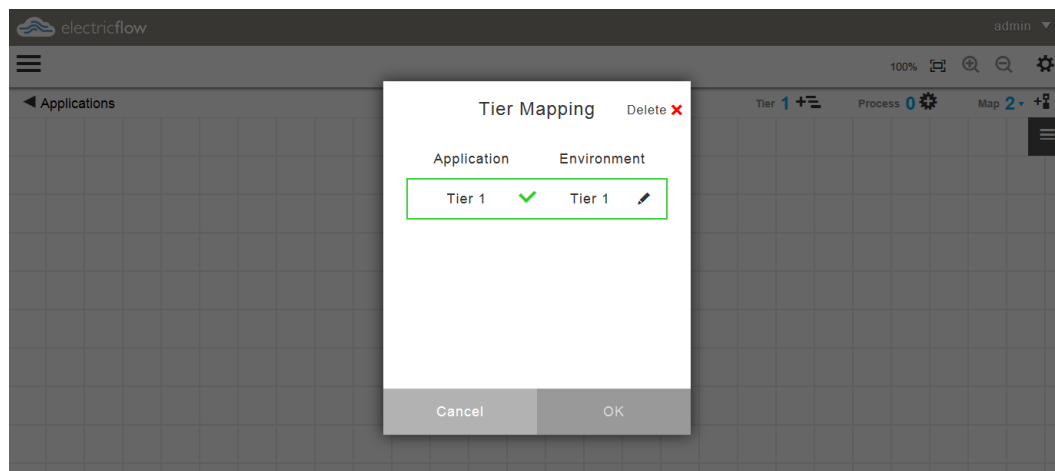
The Tier Mapping dialog box is updated.

- Click **OK**.

The Application Architecture page appears and now shows there is two tier maps instead of one.



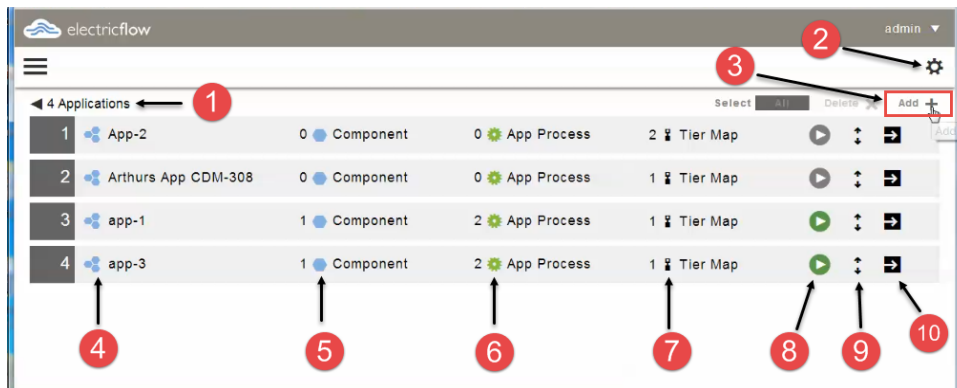
- Click on the down arrow next to the number of tier maps to see the list of environments to which the application is mapped.
- Click on an environment name, such as env-2, to see the application-to-environment tier mapping.





- Repeat the previous steps to set tier maps for the other applications in the Application List.

Application List Page

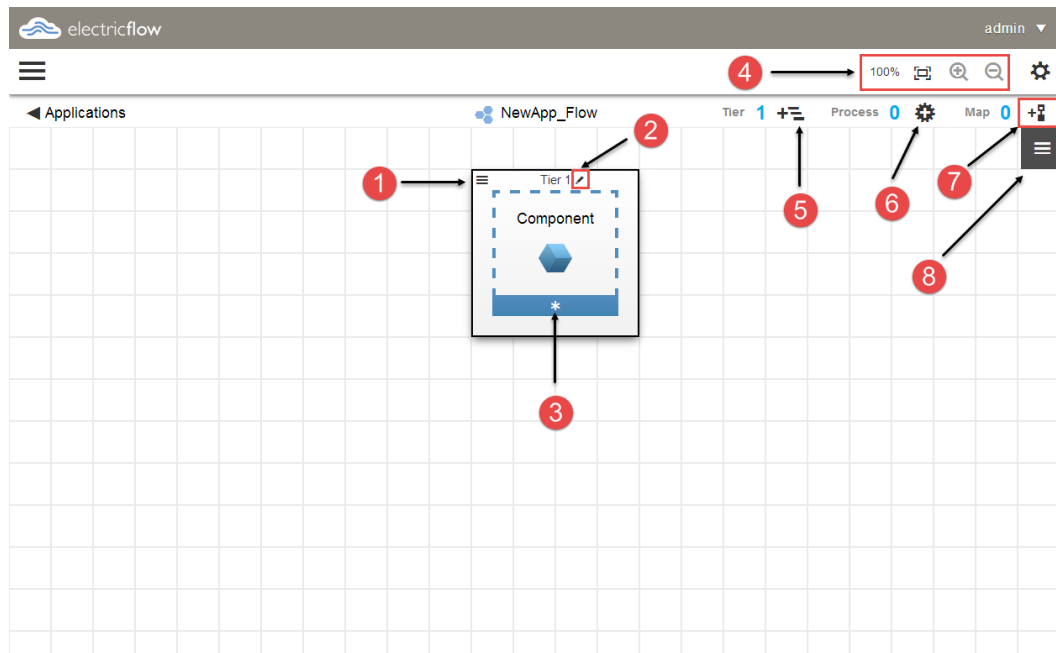
The following information is on this page.



1	List of applications icon
2	Settings icon
3	Click the plus sign to add an application.
4	Application icon
5	Component icon
6	Process icon
7	Map icon
8	Run-process icon You can run the process when the button is green.
9	Expansion icon to see more details. On this page, click this icon to see the details of the running process.  After you click the icon, it changes to  .
10	Click this icon to go to the next page. On this page, click the icon to go to the Applications page.

Applications Page

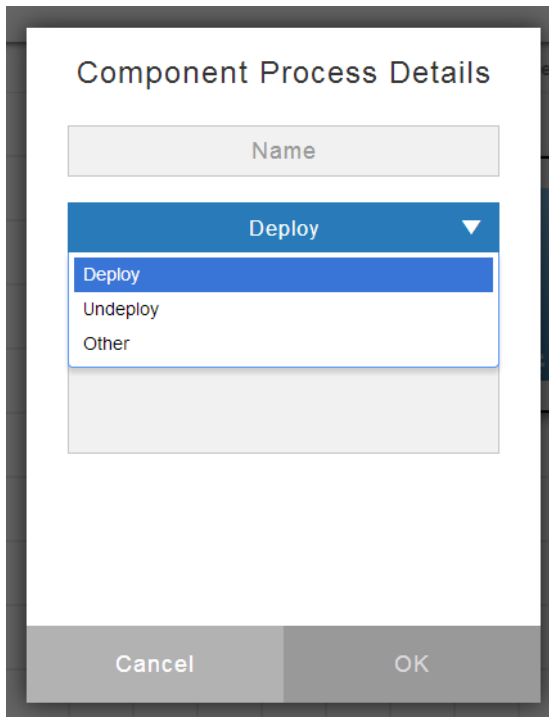
The following information is on this page.



1	Details icon for the component. Click this icon to see the component details.
2	Click this icon to change the information about the tier.
3	Click this icon to create a component.
4	This information is view only. ElectricFlow 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.
5	Tier icon Click this icon to add a tier to the application.
6	Process icon Click this icon to add an application process to the application.
7	Map icon Click this icon to add an application-to-environment tier mapping for the application.
8	Details icon for the application. Click this icon to see the application details.

Component Process Details Dialog Box

To configure a component process, you have to set the name and process type of the component.



The screenshot shows a dialog box titled "Component Process Details". It contains a text input field labeled "Name". Below it is a dropdown menu with the label "Deploy" and a downward arrow. The dropdown menu is open, showing three options: "Deploy", "Undeploy", and "Other". At the bottom of the dialog box are two buttons: "Cancel" and "OK".

Select one of these options for the process type:

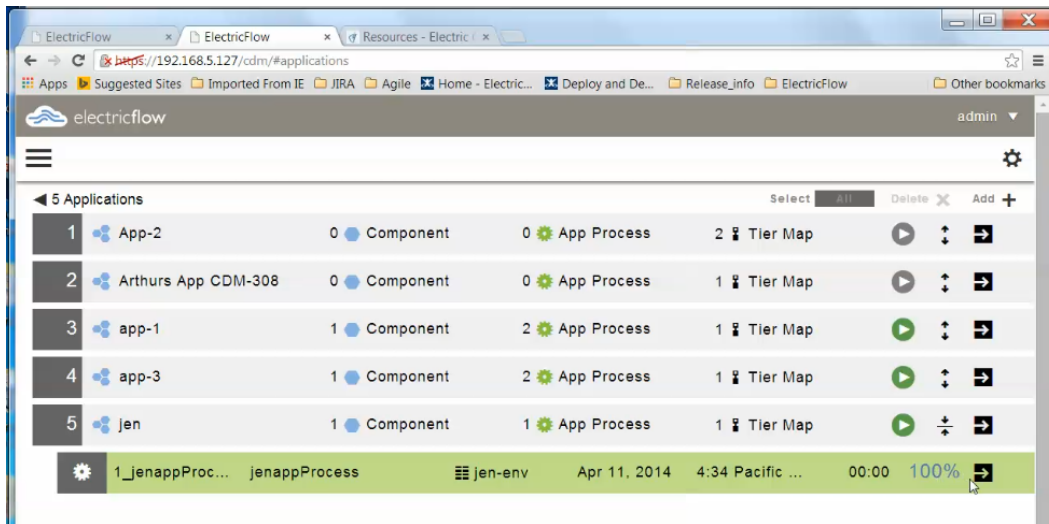
- **Deploy** - Use inventory tracking. The ElectricCommander server tracks the artifacts deployed to environments.
- **Undeploy** - The next time that the deploy process is run, the ElectricCommander server removes information about the artifacts deployed to environments.
- **Other** - Do not use inventory tracking

Inventory Tracking

Inventory tracking is a way to track what is in the continuous delivery solution that you created and implemented. ElectricFlow has inventory lists for applications and environments.

Application Inventory Tracking

When you configure and run an application, the Application list shows the status. The following shows that the application was successfully run.

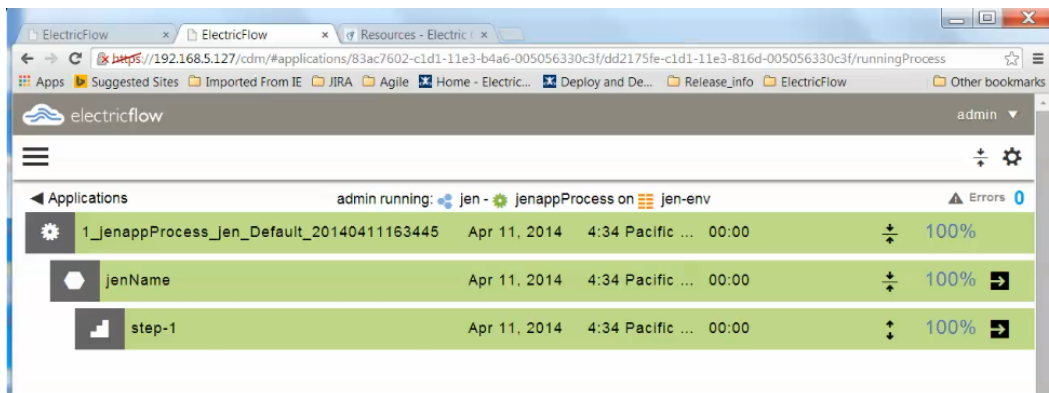


To see what objects belong to the application, click on the arrow on the right side of the process row.

The details about the application appear.

The jenappProcess has these objects:

- A component called jenName.
- A component process with one step called step-1.



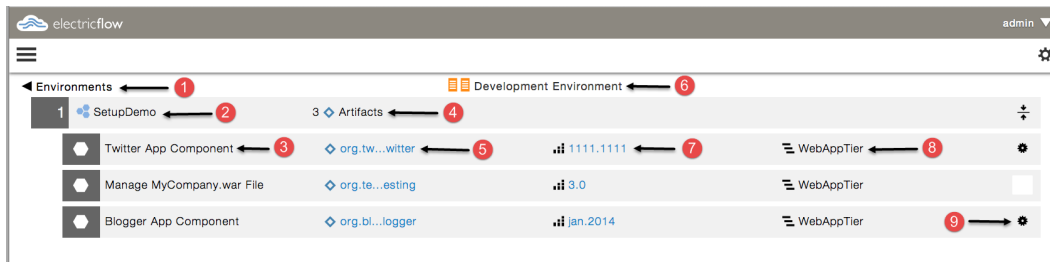
Environment Inventory Tracking

When you configure an environment, assign resources to it, and configure the resources, you can access the Environment Inventory list from the Environment List (see the [Environment List](#) and [Environment Inventory](#)).

The Environment Inventory list appears.

The environment has these objects:

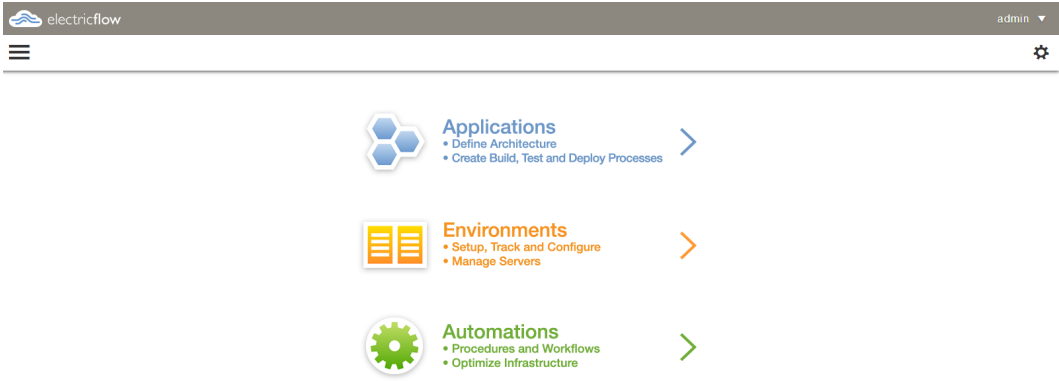
- An application called SetupDemo.
- Three components defined for the application. Each component artifact and version number. Each component also is a tier called WebAppTier.



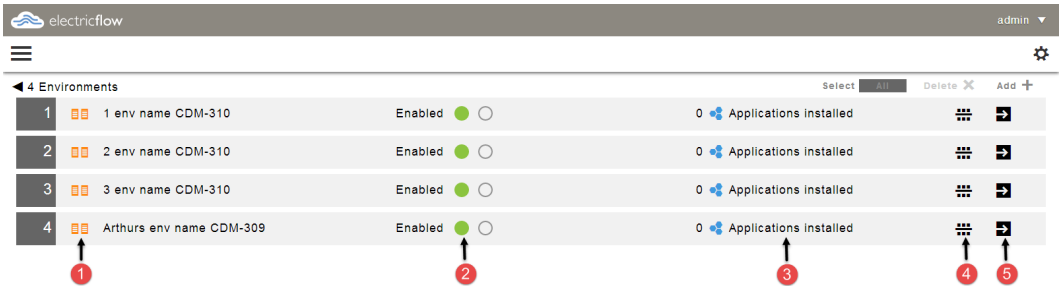
1	Breadcrumb
2	Application name
3	Component
4	Artifact count
5	Artifact name
6	Environment name
7	Version number
8	Tier name
9	View artifact details in Commander

Environment List

You can access the Environment List from the Home page.



When you click **Environments** on the Home page, the Environment List opens. You can use this list to track the environments in your software deployment solution.



1	Environment icon
2	Status
3	Application count
4	View inventory
5	View Details

Environment Inventory

The environment inventory allows you to quickly see what applications and components are deployed to an



environment. Go the Environments page and click on .

To get to the Environment Inventory page, you see details about the component, artifact name, artifact version, environment tier, time when it was deployed, and the error count if there are any errors.



You can click on the process icon to see more details about the process run.

