

# ElectricFlow 8.0.2 Release Notes

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## **ElectricFlow version 8.0.2**

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## ElectricFlow 8.0.2

ElectricFlow 8.0.2 is a maintenance release (MR). For more information about the ElectricFlow software release strategy, go to the [ElectricFlow/ElectricCommander Release Strategy Update](#).

## Product Description

ElectricFlow® is an enterprise-grade DevOps Release Automation platform that simplifies provisioning, building, and releasing multi-tiered applications. Its model-driven approach to managing environments and applications lets teams coordinate multiple pipelines and releases across hybrid infrastructure in an efficient, predictable, and auditable way.

## What's New or Modified

This release consists of the following resolved issues and updated plugins.

### Resolved Issues

#### Security-Related Issues

- PHP is upgraded to version 5.6.30. For details, see <https://secure.php.net/ChangeLog-5.php>. (NMB-25460)
- Apache is upgraded to version 2.2.34. For details, see [https://www.apache.org/dist/httpd/CHANGES\\_2.2](https://www.apache.org/dist/httpd/CHANGES_2.2) and [https://httpd.apache.org/security/vulnerabilities\\_22.html](https://httpd.apache.org/security/vulnerabilities_22.html). (NMB-25460)
- OpenSSL is upgraded to version 1.0.2l. For details, see <https://www.openssl.org/news/openssl-1.0.2-notes.html>. (NMB-25460)

#### Other Issues

- An issue where deleting an application instead deletes another random application is fixed. (CEV-16381)
- A `NullPointerException` error that occurred during a run of an application containing a by-reference master component is fixed. (CEV-16354)
- Editing an application process containing an email notifier in the DSL Editor no longer causes the process to be unsaveable and the generated DSL to be non-importable. (CEV-16348)
- The issue where the stage details in a pipeline run collapse and are not visible for subsequent stages after the first stage completes is fixed. (CEV-16352)
- The access control rules that are defined on widgets are now honored when the widgets appear in the DevOps Insight dashboards. (CEV-16252)
- Upgrades of installations using a MySQL database no longer fail with an `Execution of setup script '80_installDefaultDashboards.pl' failed with exit code 255 error`. (CEV-16105)
- A `NonUniqueResultException` error no longer occurs when multiple runs of an application process against the same environment are launched simultaneously. (CEV-12403)
- Disk space requirements for the DevOps Insight Server are now documented. For details, see the “Disk Usage” section in the “System Requirements and Supported Platforms” chapter of the *ElectricFlow 8.0 Installation Guide* at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html). (NMB-25552)

- An issue caused by excessive Active Directory queries involving pipeline runtimes is fixed. (NMB-25509)
- The “Supported Alternate Databases” section in the “System Requirements and Supported Platforms” chapter of the *ElectricFlow Installation Guide* is updated to include additional guidance for setting the `OPEN_CURSORS` parameter so that ElectricFlow does not run out of open cursors. For details, see the guide at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html). (NMB-25486)
- The *KBEC-00376 - Making the ElectricFlow Server JVM Aware of Docker Container Memory Limits* KB article is created. This article is referenced in the “Making the ElectricFlow Server JVM Aware of Docker Container Memory Limits” section of the *ElectricFlow Installation Guide*. (NMB-25474)
- The architecture diagrams in the “Architecture” section in the “Introduction to ElectricFlow” chapter of the *ElectricFlow Installation Guide* are updated to include the DevOps Insight server. For details, see the guide at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html). (NMB-25301)
- Information about the error message in the “Running an Advanced Agent Command-Line Installation (Agent-Only Installer)” section of the *ElectricFlow Installation Guide* regarding missing 32-bit libraries that appears during installation is improved with additional details. For more information, see the guide at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html). (NMB-25299)
- All applicable sections for installing or upgrading ElectricFlow in the *ElectricFlow Installation Guide* are updated to describe how to set permissions on the installer file to make it executable. For details, see the guide at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html). (NMB-25298)
- Slow rendering of any jobs list that had a large number of jobs is fixed. (NMB-24886)
- `sigar-amd64-winnt.dll` (which is used by ElectricFlow to monitor CPU usage) no longer crashes with an `EXCEPTION_ACCESS_VIOLATION` error when an ElectricFlow server node is started. (NMB-25459)
- Hyperlinks in the **Description** field of a workflow property are now rendered correctly. (NMB-17003)

## Bundled Plugins

The following plugins are new or updated.

Name	New Version	Status
EC-AzureContainerService	1.0.2	Updated
EC-GoogleContainerEngine	1.0.3	Updated
EC-Jenkins	1.8.4	Updated
EC-JIRA	1.0.1	Updated
EC-Kubernetes	1.0.3	Updated

For a complete list of bundled plugins, see the “Plugins That are Bundled with ElectricFlow” appendix in the *ElectricFlow 8.0 User Guide* at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html).

## Installation and Upgrade Notes

- In `DATA_DIR/conf/wrapper.conf`, change the default prefix for StatsD from `wrapper.java.additional.802=-DCOMMANDER_STATSD_PREFIX=commander` to `wrapper.java.additional.802=-DCOMMANDER_STATSD_PREFIX=flow` (NMB-22835)
- In the Oracle database, set the `OPEN_CURSORS` parameter to at least 1000 to prevent ElectricFlow from running out of open cursors. But depending on your ElectricFlow server usage, an `OPEN_CURSORS` value of 1000 might not be sufficient, so a `java.sql.SQLException: ORA-01000: maximum open cursors exceeded` error message might appear in the `<DATA_DIR>/logs/commander.log` file. In this case, increase the value of `OPEN_CURSORS` to one that is optimal depending on your usage. (NMB-25632)

For complete installation and upgrade information, see the *ElectricFlow 8.0 Installation Guide* at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html).

**IMPORTANT:** *Before starting an upgrade, make sure to back up your existing ElectricFlow data.*

### Upgrading Your Existing ElectricFlow Environment

- Upgrades to ElectricFlow 8.x are supported only from ElectricCommander 4.2.x or any version before 8.0. Any ElectricCommander systems and servers that are pre-Commander 4.2 must be upgraded to an ElectricCommander 4.2.x release. For upgrade instructions, see the *ElectricFlow 8.0 Installation Guide* at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html).
- Upgrading to ElectricFlow 8.x from ElectricCommander 4.2.x requires a database upgrade.
- You cannot upgrade from a previous version running the built-in database to an ElectricFlow 8.x database. If you want to continue using the built-in database in ElectricFlow 8.x, follow the database upgrade procedures described in the *ElectricFlow 8.0 Installation Guide* at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html).

### Upgrading the DevOps Insight Server from Version 7.3 to Version 8.x

#### *Re-Specifying Configuration Settings Not Preserved During the Upgrade*

The installers (GUI, interactive console, and silent mode) for the DevOps Insight server do not preserve the configuration setting for the DevOps Insight server host name (`--hostName`) or the setting for the Elasticsearch number of shards (`--elasticsearchNumberOfShards`) during the upgrade from 7.3 to 8.x. If you specified nondefault values during the 7.3 Reporting server installation, you must re-specify these settings during the upgrade. (All other settings are preserved.)

#### *Configuring DevOps Insight Server Security*

The introduction of enhanced security for the DevOps Insight server in version 8.0 requires that you specify the new security settings during DevOps Insight server installation. These settings are used to enable connectivity and authentication between the DevOps Insight server and the ElectricFlow server. For details about specifying these settings during DevOps Insight server installation, see the “Installing ElectricFlow” chapter of the *ElectricFlow 8.0 Installation Guide* at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html).

### Running the DevOps Insight Server on a System with Other ElectricFlow Components

For a production environment, Electric Cloud recommends that you install the DevOps Insight server on a system other than systems running other ElectricFlow components (such as the ElectricFlow server, web server, repository server, or agent). If you must install it on the same system (such as for testing or other non-production or trial-basis situations) see the “Running the DevOps Insight Server on a System with Other ElectricFlow Components” section in the *ElectricFlow Installation Guide* at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html) for details.

### Configuration Notes

#### Performing a Full Import

During a full import, the import operation might hang in the following scenarios. To import successfully into ElectricFlow 8.0 and newer versions, perform the appropriate workarounds (CEV-15447 and CEV-11873):

- A manual process step in a process has formal parameters. The workaround is to remove the entry related to the property sheet for the job step that is associated with the manual process step.
- In the exported XML file from the earlier release, two pipelines are in different projects, and both pipelines have no gate tasks. The flow associated with the pipeline is duplicated under both projects. The workaround is to remove the flow element under the projects.

#### Updating Application Component Plugin Versions in the Export File When Upgrading from 5.0, 5.1, 5.2, or 5.3 to 8.x

Application components are based on plugins (EC-Artifact, EC-Maven and EC-FileSysRepo) with plugin details (such as name, procedure, and parameters) stored in properties on the component. Before version 5.4, the value for the `pluginProjectName` property included the plugin name and version (for example, `EC-Artifact-1.0.3.4`), which closely tied components to specific versions.

When you export your project data before upgrading from ElectricCommander 5.0, 5.1, 5.2, or 5.3 to ElectricFlow 8.x, you must update the application component plugin versions in the export file to the versions on the target ElectricFlow server before importing the data to ElectricFlow 8.x.

For example, if the promoted EC-Artifact plugin version is 1.0.4.1, then in the snippet below, you would change `EC-Artifact-1.0.3.4` to `EC-Artifact-1.0.4.1`:

```
<property>  
  <propertyId>3f509ffd-506b-11e6-9960-f01faf2c26a3</propertyId>  
  <propertyName>pluginProjectName</propertyName>  
  <counter>0</counter>  
  <createTime>2016-07-23T00:20:20.829Z</createTime>  
  <expandable>1</expandable>  
  <lastModifiedBy>admin</lastModifiedBy>  
  <modifyTime>2016-07-23T00:20:20.829Z</modifyTime>  
  <owner>admin</owner>  
  <tracked>1</tracked>  
  <value>EC-Artifact-1.0.3.4</value>  
</property>  
</property>
```

Starting with release 5.4, ElectricFlow uses the plugin key (which does not include the version) when defining a component. (CEV-6679)



## Registering a Custom Plugin Procedure for the Step Creation Dialog

You must register a user-developed plugin so that it appears as an option:

- When you use the plugin to configure a step in a component or application process.
- In a procedure in the automation platform.

For details, see the “Register your procedure for the step creation dialog” section in the “Examples and Tutorials” chapter of the *ElectricFlow Plugin Developer Guide* at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html). (CEV-3649)

## Diffie-Hellman Key Size Incompatibility

To enable the ElectricFlow server version 7.0 or newer to configure Diffie-Hellman cipher suites properly, ElectricFlow uses OpenSSL-1.0.1T with SSLv2 enabled. Because of OpenSSL and JRE changes, the minimum Diffie-Hellman key size requirement is increased to 1024 bits (from 768 bits) as of version 7.0.

Server versions 7.0 or newer use Jetty (a Java HTTP server), which listens on the 8000 (unsecure) and 8443 (secure) ports. Server versions 7.0 or newer use Java 1.8.0\_66, in which the ephemeral DH key size defaults to 1024 bits during SSL/TLS handshaking in the SunJSSE provider.

For details on the increase of the key size requirement as of Java 1.6-u101, see the Java release note at <http://www.oracle.com/technetwork/java/javase/overview-156328.html#6u101-b31>. For details as of Java 1.7-u85, see the Java release note at <http://www.oracle.com/technetwork/java/javase/7u85-relnotes-2587591.html>.

Because their minimum key size is 1024 bits, agent versions 7.0 or newer can connect only to:

- Server versions 5.4, 6.0.1, or 6.5 or higher via ectool
- External applications that require SSL with a minimum key size of 1024 bits

However, ElectricCommander agents of versions 5.0.6, 5.3, or 5.4 and ElectricFlow agent versions 6.0.1 or 6.5 or newer can connect to all ElectricFlow server versions (including 7.0 or newer) via ectool and ec-perl.

ElectricCommander server versions 5.0.6 or 5.3 or newer can run jobs using all agent versions (including 7.0 or newer). ElectricFlow server versions 7.0 or newer can run jobs using ElectricCommander agent versions 5.0.6 or 5.3 or newer.

## Limitations

- When an application is cloned from one project (the original project) to another (the destination project), the tier maps for the application will point to the environments with the same names in the destination project. To deploy the application to the environments in the original project, you must create tier maps connecting the application to those environments.
- When an assignee is added in a manual process step or stage task through the web interface, the Search field displays only the users who have actually logged into the system.
- Session management limitations:
  - When a user logs out, they are logged out only on that node.
  - When a user is deleted from the system, their session is active until it expires.
  - When a job ends, the user’s session is active until it expires.

## Known Issues

### Performance and Scalability Issues

#### *Performance Impact of Recursive Traversal of Group Hierarchy*

Enabling **Recursively Traverse Group Hierarchy** might impact system performance when the LDAP group hierarchy is traversed. The amount of impact varies with the configurations of the ElectricFlow and LDAP servers, the depth of group hierarchy in the LDAP server, and the network latency between the servers. Make sure that your directory provider can handle the additional load for supporting nested group hierarchy traversal.

The following response times were recorded during Electric Cloud performance tests with nested LDAP groups support.

#### Test Environment Details

- ElectricFlow server
  - Intel® Core™ i5-3210M CPU @ 2.50GHz CPU
  - 3011MiB RAM
  - 80 GiB (85 GB) VBOX HARDDISK disk
- Active Directory server
  - Intel Core i5-3210M CPU @ 2.50GHz CPU
  - 2 GB RAM
  - Windows Server 2012 R2 OS
- Performance data set
  - 5040 users
  - 126 groups
  - Average number of 40 users per group
  - Average number of 2 immediate groups per parent group
  - Maximum depth of 6 in group hierarchy

#### Response Times with Active Directory

Average of 1000 API calls with user and group at the fifth nested level in the Active Directory group hierarchy.

API command	ElectricFlow 6.5 without recursive group hierarchy traversal	ElectricFlow 6.5 with recursive group hierarchy traversal
login	1.066 seconds	1.195 seconds
getUser	1.086 seconds	1.213 seconds
getGroup	0.918 seconds	1.102 seconds

### Response Times with OpenLDAP

Average of 1000 API calls with user and group at fifth nested level in the Active Directory group hierarchy.

API command	ElectricFlow 6.5 without recursive group hierarchy traversal	ElectricFlow 6.5 with recursive group hierarchy traversal
login	0.744 seconds	0.753 seconds
getUser	0.705 seconds	0.714 seconds
getGroup	0.657 seconds	1.011 seconds

### Scalability Issues

- Hundreds of parallel job steps might cause Job Scheduler performance issues at job startup. (NMB-16185)
- The time needed to add a property to a job increases as the number of properties increases. (NMB-16120)
- The time needed to add a step to a procedure increases as the number of steps increases. (NMB-16118)

### Other Known Issues

- Icons for a microservice cluster might be missing from the Environments Visual Editor after an upgrade from version 8.0 to version 8.0.2. To work around this issue, open and resave the cluster definition after the upgrade to restore the icons. (CEV-16416)
- A component process uses `runProcess` parameters to identify the final artifact version to be retrieved by the component. Therefore, retry steps will continue to use the parameters even if the artifact version is updated in the component definition. (CEV-15207)
- An application process step that is run using “retry on error” that calls a component process containing many steps (at least one of which is a step using “stop on error”) causes the job to abort without a retry of the application process. (CEV-15171)
- If an application process step cannot expand to its child steps (because of an invalid run condition or an invalid formal parameter), then the step is not retried even if it uses “retry on error” error handling. The job eventually completes with an error. (CEV-15122)
- “Retry on error” icons might remain in the pipeline runtime UI even though the corresponding gate rules were executed to completion. (CEV-14706)
- No error message appears for failed tasks and retry tasks during a pipeline runtime. (CEV-14689)
- Error messages for runtimes started by a schedule are not visible if the schedule was created with a missed configuration. (CEV-12363)
- The stage inclusion status in the Release Dashboard changes color after a stage is renamed. (CEV-12429)
- When an application with snapshots created in ElectricFlow 6.1 or earlier is cloned, and a project containing this application is imported to ElectricFlow 6.3 or higher, the import operation fails. (CEV-11106)

- An application deployment job will hang when a process step name is a number (for example, 1 or 2) or contains a slash (/ or \). The workaround is to change the process step name to be non-numeric and to not have a slash (/ or \). (CEV-10238)
- A `java.sql.SQLException: ORA-01000: maximum open cursors exceeded` error might appear in the `<DATA_DIR>/logs/commander.log` file. To work around this issue, in the Oracle database, set the `OPEN_CURSORS` parameter to at least 1000 depending on your usage. (NMB-25632)
- (Solaris and AIX platforms only) The artifact cache is not updated during artifact retrieval operations. (NMB-24955)
- When you use the Automation Platform UI to upload and publish artifact files with non-English characters in their file names, the operation fails with the following error: `Upload file: Exit code 1: ERROR: Publish failure: Unexpected retrieval exception for repository error.` (NMB-24949)
- If the user email address is changed in the Active Directory server or the LDAP server for an existing external user, email notifications continue to use the old user email address.  
  
The workaround is to delete the entry for the remote user in ElectricFlow. The next time the user entry is retrieved from the directory server (for example, upon user login), the external user record will be created in ElectricFlow with the updated email address. (NMB-24052)
- You can revert changes only for high-level design objects such as applications, procedures, procedure steps, workflow definitions, and state definitions.

**IMPORTANT:** Restarting the ElectricFlow server while new records are created for all tracked objects might take at least as long as an export or import of all projects (a large project can take 10 to 40 minutes).

- System performance might decrease if you disable change tracking at the server level and then you re-enable it at that level. (Change tracking is enabled by default.)

For details about using change tracking, see the “Change Tracking” chapter in the *ElectricFlow 8.0 User Guide* at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html).

## Documentation and Online Help

### Product Documentation

ElectricFlow product documentation is available at [http://docs.electric-cloud.com/eflow\\_doc/FlowIndex.html](http://docs.electric-cloud.com/eflow_doc/FlowIndex.html) as follows:

- *ElectricFlow Installation Guide*
- *ElectricFlow User Guide*
- *ElectricFlow API Guide*
- *ElectricFlow Release Notes*
- *ElectricFlow SDK Plugin Developer Guide* (updated on its own release cycle)
- *ElectricFlow SDK Plugin Developer Release Notes* (updated on its own release cycle)

Documentation on the website is updated periodically.

## Automation Platform Online Help

The Automation Platform web UI has a complete, robust, context-sensitive online help system. To use it, click the **Help** button in any page of the web UI.

## Troubleshooting and Getting Help

### Technical Support

Contact Electric Cloud technical support:

- 408.419.4300, option 2. Hours are 9 A.M.–5 P.M. PT Monday–Friday (except holidays)
- [support@electric-cloud.com](mailto:support@electric-cloud.com)
- <https://helpcenter.electric-cloud.com/> and then click **Submit a request** to submit or see your support tickets

Be prepared to provide your:

- Name, title, company name, phone number, and email address
- Operating system and version number
- Product name and release version
- Problem description

### Electric Cloud “Ask” Website

Go to <http://ask.electric-cloud.com> to:

- Ask questions or read answers to questions from other users
- Get help with installation and configuration
- Submit feedback

### ElectricFlow Knowledge Base

Go to <https://helpcenter.electric-cloud.com/hc/en-us/sections/200516863-ElectricFlow-KB> to find in-depth explanations of specific topics and solutions for specific problems.