ElectricFlow 8.1
Release Notes

Electric
Cloud

Contents

ElectricFlow 8.1

ElectricFlow 8.1 is a feature release (FR). Feature releases make new features available more frequently than long-term support (LTS) releases (such as ElectricFlow 8.0). The features and enhancements introduced in feature releases are typically rolled into the subsequent LTS release.

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

New Features and Functionality

ElectricFlow 8.1 provides the following updates to the Automation Platform and the ElectricFlow Deploy and Release modules.

Independent or Project-Level Deployable Microservices

You can now create microservices that can be independently managed and deployed. You create and manage these microservices at the ElectricFlow project level. This provides you the autonomy to deploy only the microservices for which you are responsible by letting you create them under an ElectricFlow project without creating applications.

Independent microservices provide capabilities that are very similar to those of applications. For example, you can create processes under them, map them to environment clusters, create environment reservations, define dependencies between independent microservices and applications, create snapshots, run processes and view inventories, create schedules and pipeline tasks for deployment, and add them to releases. (CEV-15321)

DevOps Insight Enhancements

- Drill-down capability in the Release Command Center dashboard is introduced. You can now drill down into certain widgets in the Planning, Dev, Build, and Deploy pipeline phases for more information. For details, see the "Drill-Down in the Release Command Center Dashboard" section in the "DevOps Insight" chapter of the *ElectricFlow 8.1 User Guide* at http://docs.electric-cloud.com/eflow_doc/FlowIndex.html. (NMB-25439)

- The **Application Deployments** page is introduced. This page shows a list of deployments and the status of each one. You can filter this list by deployment status: Running, successful, failed, or completed with one or more warnings. To access this page, drill down from any widget in the Deploy phase for a specific release or click **Applications** > **Application Deployments** from the home menu.

  For details about the **Application Deployments** page, see the "Drilling Down into the Deploy Phase" section in the "DevOps Insight" chapter of the *ElectricFlow 8.1 User Guide* at http://docs.electric-cloud.com/eflow_doc/FlowIndex.html. For details about application deployments, see the "Deploying and Troubleshooting Applications" section "Deployment Automation" chapter of the user guide. (CEV-15608 and CEV-15519)

Self Service Catalog Enhancements

- You can now create plugin procedure-based catalog items. (CEV-15262)

- Catalog items now support procedures that require credentials. (CEV-15261)

Pipeline Serial Group Tasks with Retry Support

Serial task groups are introduced. These groups complement the existing parallel task group functionality by letting you group or ungroup pipeline stage or gate tasks to run in serial order. As with parallel task groups, you can define "retry" error handling for serial task groups, which provides the option to retry all tasks in a group if a particular task fails.

Hierarchy Menu

The Hierarchy Menu is introduced. This is a wizard-like menu that aids in application, microservice, and environment modeling in ElectricFlow by helping you to visualize the relationship between objects in a project and coaching you along the way by indicating the next actions that are needed.

The Hierarchy Menu is available in the Applications Visual Editor, the Microservices Visual Editor, and the Environments Visual Editor. (Note that it does not appear in the Microservices Visual Editor or the Environments Visual Editor until you open the Applications Visual Editor and then click a microservice or environment object in the hierarchy.)

For details, see the "Hierarchy Menu" section in the "Introduction to ElectricFlow" chapter of the *ElectricFlow 8.1 User Guide* at http://docs.electric-cloud.com/eflow_doc/FlowIndex.html. (CEV-15514)

Other Enhancements

Tooltip functionality in the ElectricFlow user interface is enhanced: Tooltip wording is improved, and tooltips now exist for all UI controls. (CEV-13353)

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 and 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

- 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-15798)

- 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-15511)

- Upgrades of ElectricFlow that use a MySQL database and involve numerous pipeline runs no longer require an excessive amount of time. (CEV-15439)

- The "Example: Traditional Multiple Application Release" section in the "Release Management" chapter of the *ElectricFlow User Guide* is updated to state that copying a release does not copy the start and end dates from the original release. For details about this behavior, see the section at http://docs.electric-cloud.com/eflow_doc/FlowIndex.html. (CEV-15406)

- All non-intrinsic properties that are returned in response to the `getRelease` API command are now available via ectool or DSL. (CEV-15286)

- The access control rules that are defined on widgets are now honored when the widgets appear in the DevOps Insight dashboards. (CEV-15242)

- A `NullPointerException` error that occurred during a run of an application containing a by-reference master component is fixed. (CEV-15228)

- An application process step that is run using "retry on error" and that calls a component process containing many steps (at least one of which is a step using "stop on error") no longer causes the job to abort without a retry of the application process. (CEV-15171)

- 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-14337)

- A `NonUniqueResultException` error no longer occurs when multiple runs of an application process against the same environment are launched simultaneously. (CEV-12403)

- An application deployment no longer hangs when a process step name is a number (for example, 1 or 2) or contains a slash (/ or \). (CEV-10238)

- An issue caused by excessive Active Directory queries involving pipeline runtimes is fixed. (NMB-25509)

- (Windows platforms only) First-time installations of the DevOps Insight server no longer fail with the following error message: `Service CommanderElasticsearch is in the stopped state`. (NMB-25384)

- You can now use `--timeout` in the `ecrptdataParams` parameter to extend the API call timeout that is passed to the `ecrptdata.pl` script. This parameter is in the "runEcrptdata" step of the "runReports" procedure in the "Electric Cloud" project. (NMB-25382)

- The example in the description of the **Query User Name** field in the "To create a new Active Directory provider" section of the *ElectricFlow User Guide* is improved with additional information. For details, see the guide at http://docs.electric-cloud.com/eflow_doc/FlowIndex.html. (NMB-25361)

- 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. ((NMB-25301)

- 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 8.1 Installation Guide* at http://docs.electric-cloud.com/eflow_doc/FlowIndex.html. (NMB-25300)

- 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. (NMB-25299)

- 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-23100)

Bundled Plugins

New or Updated Bundled Plugins

The following plugins are new or updated.

Name	New Version	Status
EC-AmazonECS	1.0.2.74	Updated
EC-Ansible	1.0.4.9	New
EC-AzureContainerService	1.0.1.15	Updated
EC-CloudFoundry	1.4.0.15	New
EC-Docker	1.2.1.48	New
EC-ESX	2.3.2.36	Updated
EC-GoogleContainerEngine	1.0.3.74	Updated
EC-Jenkins	1.8.4.42	Updated
EC-JIRA	1.0.1.36	Updated
EC-Kubernetes	1.0.2.43	Updated
EC-OpenShift	1.3.0.29	Updated
EF-Utilities	1.1.7.40	Updated

For a complete list of bundled plugins, see the "Plugins That are Bundled with ElectricFlow" appendix in the *ElectricFlow 8.1 User Guide* at http://docs.electric-cloud.com/eflow_doc/FlowIndex.html.

Plugins That Are Now Unbundled

The following plugins are no longer bundled with ElectricFlow as of the versions below. These plugins are still supported and are available in the plugins catalog.

Name	Version	Name	Version
EC-CheckStyle	2.0.5.121268	EC-NCover	2.0.2.121268
EC-Clover-CMD	2.0.3.121268	EC-NMake	2.0.3.121268
EC-Cobertura	2.0.6.121268	EC-NMakeATT	1.0.7.121268
EC-CodeScanner	2.0.4.121268	EC-OpenStack	1.3.3.224

Name	Version	Name	Version
EC-Coverity	1.0.2.121268	EC-Pclint	2.0.4.121268
EC-CppCheck	2.0.5.121268	EC-PHP	2.0.4.121268
EC-CppNcss	2.0.4.121268	EC-PMD	2.0.4.121268
EC-CSH	2.0.2.121268	EC-PureCoverage	1.0.5.121268
EC-DBI	2.0.2.121268	EC-Purify	2.0.4.121268
EC-DefectTracking-ALM	1.0.5.121268	EC-Python	2.0.6.121268
EC-DefectTracking-Bugzilla	2.0.7.121268	EC-QTP	2.0.7.121268
EC-DefectTracking-CQ	2.0.5.121268	EC-Quantify	1.0.6.121268
EC-DefectTracking-Fortress	2.0.7.121268	EC-Rake	2.0.3.121268
EC-DefectTracking-MKS	2.0.3.121268	EC-Rcov	2.0.4.121268
EC-DefectTracking-QC	2.0.9.121268	EC-Ruby	2.0.6.121268
EC-DefectTracking-Rally	2.0.5.121268	EC-SilkCentral	1.0.5.121268
EC-DefectTracking-RTC	2.1.1.121268	EC-SilkTest	1.0.7.121268
EC-DefectTracking-TeamForge	2.0.7.121268	EC-Splint	2.0.3.121268
EC-DefectTracking-TestTrack	2.0.3.121268	EC-Tclsh	2.0.3.121268
EC-EMMA	2.0.1.121268	EC-TCSH	2.0.3.121268
EC-FindBugs	2.0.4.121268	EC-TestNG	2.0.4.121268
EC-Flog	2.0.3.121268	EC-Twitter	1.0.1.121268
EC-Groovy	2.0.3.121268	EC-vCloudDirector	1.4.6.121268
EC-IIS7	2.0.7.11	EC-VirtualBox	1.0.4.121268
EC-Jasmine	2.0.1.121268	EC-VisualStudio	2.0.3.121268
EC-JMeter	2.0.4.121268	ECSCM-Accurev	2.0.2.121268
EC-JTest	2.0.4.121268	ECSCM-Bazaar	2.0.2.121268
EC-Klocwork-EA	1.0.4.121268	ECSCM-ClearCase	2.0.2.121268

Name	Version	Name	Version
EC-KVM	1.0.6.121268	ECSCM-CVS	2.0.6.121268
EC-LabManager	2.2.3.121268	ECSCM-Mercurial	2.0.5.121268
EC-Make	2.0.5.121268	ECSCM-MKS	2.2.1.4
EC-MSSystemCenterVMM	2.0.2.121268	ECSCM-StarTeam	2.0.2.121268
EC-MSTest	1.0.4.121268	ECSCM-Vault	2.0.1.121268
EC-NAnt	2.0.4.121268		

Upgrading to version 8.1 does not uninstall previously-installed plugins that are on this list, and you can continue to use them. However, to obtain newer unbundled plugin versions, you must now install them from the plugins catalog.

Unsupported Plugins

- The EC-Groovy plugin is no longer supported. This plugin is unbundled and removed from the plugins catalog. No new versions of this plugin will be released. Instead, you should use ec-groovy, which is the supported CLI tool for Groovy that is bundled with ElectricFlow. For details, see the "Using Groovy and JRuby" chapter in the *ElectricFlow 8.1 API Guide* at http://docs.electric-cloud.com/eflow_doc/FlowIndex.html. (NMB-25491)

- The EC-IIS7 plugin is no longer supported. This plugin is unbundled and removed from the plugins catalog. No new versions of this plugin will be released. Instead, you should use the IIS plugin, which is bundled with ElectricFlow. For details about the IIS plugin (including supported IIS versions), see the IIS plugin Help page. (NMB-25441)

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 8.1 Installation Guide* at 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 8.1 Installation Guide* at 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 8.1 Installation Guide* at http://docs.electric-cloud.com/eflow_doc/FlowIndex.html.

- If your XML export file from ElectricFlow 8.0.1 or earlier versions has elements containing `applicationServiceMapping`, you must change all instances of that string in the file to `serviceClusterMapping` before importing the file into version 8.1. For example, change the following XML:

  ```
  <applicationServiceMapping>
    <applicationServiceMappingId>9efcda31-a85f-11e7-8500-0800279f198d</applicationServiceMappingId>
    <applicationServiceMappingName>9efcda31-a85f-11e7-8500-0800279f198d</applicationServiceMappingName>
    …
  </applicationServiceMapping>
  ```

  to

  ```
  <serviceClusterMapping>
    <serviceClusterMappingId>9efcda31-a85f-11e7-8500-0800279f198d</serviceClusterMappingId>
    <serviceClusterMappingName>9efcda31-a85f-11e7-8500-0800279f198d</serviceClusterMappingName>
    …
  </serviceClusterMapping>
  ```

  (CEV-16237 and CEV-16158)

- The Provision Cluster parameters for the EC-OpenShift plugin have changed between plugin versions 1.2.1.* and 1.3.0.* If you are upgrading from ElectricFlow 8.0.1 and have existing cluster definitions using EC-OpenShift version 1.2.1.*, then you must update each cluster definition by simply resaving the cluster definition to remove the version reference.

  ☰

  To do so, **click Configure Cluster** from the ("hamburger") menu on the cluster environment object and then click **OK** to close the **Cluster Definition** dialog box. (You do not need to make any changes in the dialog box.) (CEV-16241)

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 8.1 Installation Guide* at 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 for details.

Behavior Changes

In first-time installations, the tutorials are now enabled by default. An ElectricFlow server setting determines whether to enable them; however, after an upgrade from version 7.3 or 8.0, they might not be enabled depending on your prior setting. For details about enabling them if needed after an upgrade from those versions, see the "Guided Tutorials" section in the "Introduction to ElectricFlow" chapter of the *ElectricFlow 8.1 User Guide* at http://docs.electric-cloud.com/eflow_doc/FlowIndex.html. (CEV-15491)

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. (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

- A project import might not include the path-to-production view. (CEV-16250)
- Multiple mapped environments with the same name from different projects are not supported in email notifications. (CEV-16245)

- During an upgrade from version 8.0 (and prior versions with service and container support) to 8.1, the installer adds a default process to the application scoped service if the service is referenced in an application process step. For all other services in the application that have no reference in the application process step, you must manually create the process using the Hierarchy Menu. (CEV-16212)

- The Environments list page might not display the numbers of deployed services in individual environments. (CEV-16138)

- Restarting of imported pipeline runs is not supported. (CEV-16121)

- The retry count for group tasks or rules using "automated retry on error" is missing from the Pipeline runtime page. (CEV-15829)

- 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)

- The stage inclusion status in the Release Dashboard changes color after a stage is renamed. (CEV-12429)

- Error messages for runtimes started by a schedule are not visible if the schedule was created with a missed configuration. (CEV-12363)

- 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)

- 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 prior 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 (10 to 40 minutes for a large project).

- System performance might decrease if you disable change tracking at the server level and then 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 8.1.1 User Guide* at 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 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

- 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—a member-moderated community forum where you can:

- Ask and answer questions as well as comment on (and vote for) the questions of others and their answers

- 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.