FABRIC V6.2: MAIN FEATURES AND IMPROVEMENTS

These Release Notes describe the new features in Fabric version 6.2 and also lists the bugs that have been fixed since version 6.1.x.

Certification of this Fabric release is based on:

- Cassandra version 3.11.6.

- SQLite version 3.27.2.

- Open JDK version jdk-8u252.

- Confluent Kafka version 5.5.1.

New Web Framework, Admin and Authentication

- A new Web framework has been created and can be used by any K2View web product application. When logging in, users are directed to a central Login page that enables access to all web applications based on the user's privileges.

- A new Web Admin application has been introduced with a web-based GUI that displays all Fabric commands.

- A new Authentication mechanism now supports Web Service calls using a username and password or a secured token based on JSON Web Tokens (JWT) solution. A JWT is an open industry standard RFC 7519 method that securely represents claims between two parties. Tokens can be used in two modes:

    - Secured mode, using a digital signature on the client side.

    - Unsecured mode signed by Fabric.

    Fabric continues to support backward capability via Token Authentication and now offers an enhanced Create Token command for secured tokens.

Web Services

The following enhancements have been added to Web Services:

- Serialization of input / output parameters as customized classes.

- A new built-in Web Service that runs Fabric commands.

Fabric Commands

- The batch_in_process command now supports filtering via regular expressions.

- Prepared statements can now be used in the majority of Fabric commands.

- The default consistency level of Delete instances has been modified from ALL to LOCAL_QUARUM.

- The List command now supports ROLES, USERS, TOKENS, ROLE_PERMISSIONS and METHODS.

- ps and Kill commands now monitor and kill tasks on clusters, DCs and lists of nodes. The ps command supports both high level and detailed level task execution status.

- The following enhancements have been added to the Sync Always functionality:

    ♦ The parameter name in the config.ini file has been modified to ALWAYS_SYNC.

    ♦ The Set always_sync command has been introduced whereby users can override this parameter on a session level.

- A new set LUI_READ_ONE_WHEN_FAIL=<true/false> (default=false) command has been added. If True, when the Get command fails due to lack of consistency, it attempts to run the Get command again using CONSISTENCY_LEVEL=ONE. This new command works only when the Sync mode is Off.

Studio Debug

- During the Debug process the Data Viewer now interfaces with a real Fabric Debug server. The Sync mode can now be defined as either On, Off or Force before the Debug process is run.

- During the Debug process a Table Population interfaces with a real Fabric Debug server. The Debug mode can be defined as Attach, On, New or Force.

- A Save to Fabric option has been added whereby Sync results can now be saved in the Fabric Debug server.

- In this version major performance improvements have been introduced for fetching next records. The Studio monitors the Sync process and displays the sync of the current table / population and its duration.

- During the Debug process the Parser interfaces with a real Fabric Debug server using Fabric monitoring and execution commands.

- New Debug commands have been added to the Fabric Studio which can also been accessed by advanced users from the Fabric console.

- A new Timeout capability has been added to the Fabric Debug process and is displayed during a Debug session.

- The Deploy To Debug option has been added above the Deploy to Server option.

- An option to deploy all updated LUs to the Debug server in one click has been added.

- In the Project Tree, a circle has been added adjacent to LU, Web Services and References to indicate whether the last updated component has been deployed into the Fabric Debug environment.
  - ◆ Green = Deployed with the most updated code.
  - ◆ Gray = Not deployed.
- A logging target can now be logged back into the Module file and be aligned with the server side. Logs are written into the k2fabric.log file under the <proj>\FabricHome\logs folder.

Fabric Studio

- The version number has been added to the Application Shortcut Name field whereby more than one major or minor Studio version can be installed on the same machine.
- By default, SSL parameters are set to False when creating a new MySQL interface.
- A link has been added to the Knowledge Base instead of the User Guide.
- The Force Upgrade Post Deploy option has been updated in the Deploy list.
  - ◆ Checked, Force Upgrade Post Deploy is displayed in the Deploy list.
  - ◆ Unchecked, nothing is displayed.
- The Redis interface tab has been added to support Broadway Sequences Actors.
- Multiple init commands can be set after a database interface connection is established. The Fabric Studio Database Interface window has been enhanced to enable definition of multiple init commands. The Query Builder now runs these commands before executing Select statements.
- SFTP and local file system, a new link has been added that opens the Jobs window of a selected LU and adds a new Listener Job row with the selected interface name.
- Fabric Studio installation package:
  - ◆ Python 2.7 has been added.
  - ◆ A move has been made from Cassandra 3.11.4 to Cassandra 3.11.6. Note that Cassandra 3.11.4 is still supported.

JMX Statistics for Data Sync

- New statistics have been added to the full duration of Sync and GET commands. A Stats key is a combination of the LU and the sync mode.

  For example:

  Customer_ON, Location_FORCE
  - ◆ Stats: syncDuration
  - ◆ Key: LU_mode

Customer_OFF

- ◆ Stats: getDuration

- ◆ Key: LU_mode

- New statistics have been added that enable notification about the iidFinder's last consumed Kafka message about a given topic.

CDC

- The option to control whether a CDC message is published or not has been added, as follows:

  - ◆ config.ini set cdc_publish_mode = ON / OFF / IF_SETUP.

    - ▪ ON (default), when implemented, publish the CDC message.

    - ▪ OFF, never publish the CDC message.

    - ▪ IF_SETUP, (Studio Debug default) when implemented, publish the CDC message only if the CDC has been configured.

  - ◆ set cdc_publish=<true/false> command to set the CDC mode on a session level. Default = True.

  - ◆ CDC_REPUBLISH_SCHEMA command for turning the CDC on after an LU deployment.

- In previous releases users could not define a field as CDC if an LU table contained more than 63 fields. In this release users cannot define more than 63 fields as a CDC in the same LU table assuming that all are positioned in 1 to 63 in the LU Table. A new popup message is displayed in the Studio when attempting to define fields higher than 63 as CDC.

Jobs

The ANY option can now be added to an Node.id configuration file to control node overload:

- When ANY is set to 0 on the node.id, the node is not part of any job execution.

- When ANY is set to a value greater than zero, it limits the number of threads in a job's execution that have not been mentioned as the job's affinity.

Broadway

A Broadway flow can now be set as a table population in the following:

- Auto Discovery.

- Reference.

- LU Schema.

- Project Tree.

Broadway now supports the following:

- ECMA6 JS, by converting the JS on the client side.

- Broadway masking and sequences libraries.

- Spilt loop functionality.

- Copy / Paste / Undo.

- Collapse horizontal stages.

- GrouperIterator Actor for iterable in / out JSON serializer actions.

- Publishing / subscribing to any JMS message queue like active MQ or Rabbit MQ.

- Kafka and JMS transactions management.

- The Interface Listener tab has been added to the Jobs window whereby users can add jobs based on a Broadway flow that listens to a file-based SFTP or Local File System interface:

  - The Broadway Flow Name dropdown list is shared with LU Broadway flows.

  - An Interface Name can be an SFTP or local file system.

  - Inputs include a flow's external input and the Interface Name and Path fixed inputs.

  - Fixed input arguments are in bold. Flow arguments are in red when there are no input arguments.

Miscellaneous

- Fabric log messages now display the Population Name and LU during a failure.

- The buildAndDeployArtifacts.sh script now uses a Java built-in class to zip artifact files. The ZIP compression installation on the server machine is now redundant.

- A new Set common_local_trx command has been added to enable selecting and modifying data in reference tables in the same session during a transaction before running a commit.

- Eager connection close, the following statement, execute and fetch APIs have been enhanced whereby the connection from source interfaces is automatically closed and returned to the pool when no longer in use.

- Improved response time of multiple requests using Sync on the same iid.

- The ability to dynamically define the Loader Section name when loading data into Cassandra.

- The DbCassandraLoader interface type has been added.

- The Trace mechanism can now be used on both global and session levels.

- A function call can now be triggered when the data in an LU table is modified. A new function and trigger type named On Change that holds a list of trigger function names on a shared LU level has been added.

- Upgrade third party tools:

  - Tomcat 8.5.56.

  - Elastic Search 7.8.1.

FABRIC V6.2: RESOLVED ISSUES

- The status of a scheduled job that failed during the last execution and has no planned future runs is now FAILED.

- When running a Web Service with the serializeNull annotation set to True in XML format, the patterns covering the empty value are not returned in the Web Service's response structure. A new serial null property has been added in the Web Service window in the Studio.

- Calling a Web Service with unauthorized user privileges now generates the 403-response code and not 401.

- The Jobstatus X days ago command does not display stopped jobs.

- The k2_trim command now uses trim() by default to cover all whitespace.

- The Search command returns an error message when it is run on an LU that does not exist.

- The Fix set_global global command trims spaces from the variable name (Freshdesk #16820).

- The SQLite BUSY exception has been fixed on common tables.

- Deployment of an empty Staging XML now deletes Table Properties from an LuType.

- Common tables, a partial commit can be repaired when an SQL error due to unique constraints appears in the middle of the transaction.

- IID finder:
    - Staging validation now supports System Of Record (SOR) tables.
    - A sync fails when a table population is missing in staging.xml.

FABRIC V6.2: UPGRADING FROM RELEASE 6.1.X

- Recompile and deploy existing projects based on the new release.

- Studio, add Fabric 6.2 to the cluster_id in the node.id file to create a new keyspace in Cassandra with the 6_2 prefix.