webMethods CloudStreams 10.4 Readme

April 2019

This is an innovation release. Innovation releases have a much shorter support cycle than standard releases. To learn more, please visit http://empower.softwareag.com/innovationrelease/.

This file contains important information you must read before using webMethods CloudStreams 10.4. You can find system requirements, user documentation, and installation and upgrade instructions on the Documentation website or the TECHcommunity website. At those locations, you can also find suite-related security and globalization information.

Included in this file is information about functionality that has been added, removed, deprecated, or changed for this product. Deprecated functionality continues to work and is supported by Software AG, but may be removed in a future release. Software AG recommends against using deprecated functionality in new projects.

1.0 Critical Information

This section lists any critical issues for the current release that were known when this readme was published. For critical information found later, go to the Knowledge Center on the Empower website.

2.0 Known Issues

This section lists any issues for the current release that were known when this readme was published. For known issues found later, go to the Knowledge Center on the Empower website.

CloudStreams Server

- WST-4316
  Headers added in a connector service are retained after changing the Connection Alias to a different connection type.
  If a connector service is created using a connection alias, the headers added will be specific to the connection type of the connection alias. However when the connection alias is changed to a different connection type, the headers added with the first connection alias are still retained, even though they are not applicable for the newly selected connection alias with a different connection type. Currently there is no restriction while switching the Connection alias to a different type.
  There is currently no workaround for this issue.

- WST-4313
  Inline connection does not work with JWT and authorization_code authentication schemes.
  There is currently no workaround for this issue.

- WST-4217
  Inline connection does not work with connection types other than "sagcloud".
  There is currently no workaround for this issue.

- WST-4227
  CloudStreams does not reflect the changed name of a configured service in the connector listener.
  If you configure a service as an action in the connector listener and rename that service in the Service Development perspective in Software AG Designer, CloudStreams Server does not rename it in the connector listener node.
  There is currently no workaround for this issue.

- WST-4219
  Connector listeners do not work with connection having connection type as OAuth V2.0 (Authorization Code Flow) or OAuth V2.0 (JWT Flow).
  If you create a connector listener and choose a connection having connection type as OAuth V2.0 (Authorization Code Flow) or OAuth V2.0 (JWT Flow), CloudStreams fails to enable the listener because it does not handle these connection type during handshake.

There is currently no workaround for this issue.

- WST-4335
  After running the update/batchUpdate or batchUpgrade utility, CloudStreams shows the old and new values for a field in the inline connection tab in the Software AG Designer.
  If you create a connector service for a lower API version and enable inline connection, and if you run the pub.cloudstreams.admin.service:update/batchUpdate or the pub.cloudstreams.upgrade:batchUpgrade service to update to a higher API version, then after successful execution, CloudStreams shows both the old and new connection details in the "Connection" tab for that connector service in Software AG designer.
  There is currently no workaround for this issue.

- WST-4333
  After running the update/batchUpdate or batchUpgrade utility, CloudStreams shows older values for a few connection fields in the inline connection tab in Software AG Designer.
  If you create a connector service for a lower API version and enable the inline connection, and after you run the pub.cloudstreams.admin.service:update/batchUpdate or pub.cloudstreams.upgrade:batchUpgrade service to update to a higher API version, then after successful execution, CloudStreams shows the older connection details in the "Connection" tab for a few connection fields for that connector service in Software AG designer.
  There is currently no workaround for this issue.

CloudStreams Development

- WCD-1156
  Assignment from services is not removed from the Connector XML file when the service is deleted from a perspective other than CloudStreams Development.
  When REST elements such as Parameters, Headers, Body, and Connection properties have assignments from a service and the service is deleted from a perspective other than CloudStreams Development, the user interface and the Connector XML file still show the assignments.
  Workaround: Remove the assignments (*Unassign*) manually.

- WCD-1793
  Software AG Designer user interface gets disabled when a connector listener is refreshed.
  After you create a new connector listener and add a service for invocation, but do not save it, the user interface is disabled if you refresh the connector listener.
  There is currently no workaround for this issue.

- WCD-1795
  Inline connection fields remain enabled even if the “Use Inline Connection” option is cleared.
  If you create a cloud connector service, enable the “Use Inline Connection” option, save it, and then clear the “Use Inline Connection” option and save it again, then after you refresh the cloud connector service, the inline connection fields remain enabled.
  There is currently no workaround for this issue.

- WCD-1798
  Business object gets added to a cloud connector service even if there is an error while selecting the business object.
  If you create an MS Dynamics OData connector and select the business object as "accounts", an error appears after you click Finish. If you click OK in the error dialog box, the "accounts" business object is added to the cloud connector service.
  There is no currently workaround for this issue.

3.0 Usage Notes

This section provides any additional information you need to work with the current release of this product.

CloudStreams Server

- CloudStreams provides a provision to call any Integration Server service in the start-up sequence.
- A CloudStreams REST resource supports only one type of message builder and formatter for all response codes.
- CloudStreams does not support the RPC/encoded style WSDL.
- CloudStreams does not support the RPC/literal style WSDL.
- CloudStreams does not support sharing of Connector Virtual Services, Virtual Services, and Policies across nodes in a clustered setup. These artifacts should be manually deployed to a clustered node on need basis.
- CloudStreams SOAP services support sending an attachment through MTOM as a base64 encoded input. The support to wrap an attachment as a XOPObject type and sending large attachments is not supported.
- For SOAP based connectors, if the WSDL has multiple bindings for a given service, CloudStreams does not support changing multiple URLs dynamically to connect to the service endpoint.
- webMethods Mediator and CloudStreams products are not compatible. The products must be installed on separate webMethods Integration Server instances.
- While enabling a CloudStreams connector listener, if there are connectivity issues such as network and proxy issues while connecting to the streaming API endpoint, the listener automatically goes into retry mode and attempts to connect to the API endpoint until the configured connection timeout is exhausted. The connector listener inherits the timeouts (Connection TimeOut and Socket Read Timeout) from the connector connection. In case the timeout is set to a large value, the update to the connector listener “enabled” status takes quite a while to reflect in the Integration Server Administrator. This may convey an impression to the user that nothing is happening. To confirm the processing, the user should check the server logs with “Streaming” logging component configured to *Debug* or above, or alternatively reduce the timeout values to speed up the “enabled” status update for the connector listener.

- If you disable a CloudStreams connector listener, a disconnect call is sent to the streaming provider. However, in the server logs, a META_CONNECT event is observed soon after the META_DISCONNECT event. This is because when a disconnect is sent to the streaming provider, the provider server also wakes up the long poll that may be outstanding, and replies with a connect message that may reach the client after the disconnect reply message. This is expected behavior.
- In a clustered set up, if a Terracotta server is down or unavailable for some reason, CloudStreams connector listeners will continue to function in a manner similar to a standalone set up.
- After a CloudStreams connector listener of connection type Bayeux HTTP Long Polling successfully transitions to the enabled state, and if at any point of time the connector listener receives an advice={reconnect=none, interval=0} from the back end, the listener does not attempt to reconnect and re-establish the subscription. As a result, even though the connector listener remains in an enabled state, the underlying subscription is no longer active.

CloudStreams Development

- CloudStreams Provider projects developed using the older plug-in, that is, v9.12 and earlier, cannot be migrated or upgraded to the v10.2 plug-in. You must create new projects.
- While creating a connector, if the connector ID contains dots (.), nested or hierarchical folders will be created. For example, if the connector ID is a.b.c.d.e.f.g, nested folders will be created named as a, b, c, d, e, f, and g. It is recommended to have as less dots as possible in the connector ID in order to have a smaller hierarchical structure in the Package Navigator view in the Service Development perspective.
- While creating a connector using a Swagger file, authentication schemes are not parsed. You must add the authentication schemes after creating the connector.
- You will not be able to delete a provider package if it is published. You must first *unpublish* the provider package and then delete it.
- You will not be able to update the Resource Group reference if a provider package is published. You must first *unpublish* the provider package and then update the Resource Group reference.
- GET, PUT, POST, DELETE, and PATCH are the only methods supported while creating a REST resource. If you are creating a connector using a Swagger file, any other method available in the Swagger file will not be supported.
- In order to view the newly added assets, you must refresh the package from the Package Navigator view in the Service Development perspective.
- In order to import a Provider folder, if the Provider package is created on a different server, you must have access rights on that server.
- In order to import a published Provider package, *nsName* must follow the following namespace convention: <connector_id>.<service_name>. If this convention is not followed, the Provider package can still be imported, but a few functionalities might not work after import.
- Assignment from services is not removed from the Connector XML file when the service is deleted from a perspective other than CloudStreams Development. When Rest elements such as Parameters, Headers, Body, and Connection properties have assignments from a service and the service is deleted from a perspective other than CloudStreams Development, the user interface and

the Connector XML file still show the assignments. These assignments will have to be removed (*Unassign*) manually.

- Adding or deleting a user will not reflect automatically on the "Run As User" list for a "Service Invocation" configuration on the "Event" tab of an already open listener node. The listener node must be closed and reopened to reflect the updated user list. Additionally, if the "Service Invocation" action has been configured to be applied on the incoming events and the configured "Run As User" user has been deleted, then the "Run As User" value has to be manually reconfigured.

4.0 Fixes Included in Each Release

This section lists the *latest fix level* that has been included in each release for each product component. A release is listed in this section only if changes occurred in that release. Go to the Knowledge Center on the Empower website for detailed information about fixes.

CloudStreams Server

Release 10.4

- WST_10.3_Fix4
- WST_10.1_Fix7
- WST_9.12_Fix8
- WST_9.10_Fix12

Release 10.3

- WST_10.2_Fix2
- WST_10.1_Fix8
- WST_9.12_Fix6

Release 10.2

- WST_10.1_Fix4
- WST_9.12_Fix5
- WST_9.10_Fix11
- WST_9.9_Fix6

Release 10.1

- WST_9.12_Fix3

Release 9.12

- WST_9.10_Fix4

Release 9.10

- WST_9.9_Fix2

CloudStreams Development

Release 10.4

- WCD_10.3_Fix3
- WCD_9.12_Fix3

Release 10.3

- WCD_10.2_Fix1
- WCD_10.1_Fix2
- WCD_9.12_Fix2
- WCD_9.10_Fix4

Release 10.2

- WCD_10.1_Fix1

Release 9.12

- WCD_9.10_Fix2

5.0 Other Resolved Issues

This section lists the issues that were resolved in each release but were not part of the fixes listed in the previous section. A release is listed in this section only if changes occurred in that release.

CloudStreams Server

Release 10.4

- WST-3895
  When a CloudStreams connection referenced by a CloudStreams connector listener explicitly references a proxy configuration, or when a default proxy configuration is available in Integration Server Administrator > Settings > Proxy Servers, and the configured proxy server throws a Basic Authentication challenge to the CloudStreams connector listener, the listener fails to enable.
  This issue is resolved.

- WST-3910
  If a user adds a custom header while updating the subscription details for a connector listener, CloudStreams Server ignores it and does not send it in the request.
  This issue is resolved.

- WST-3917
  Errors occur while applying OAuth v1.0a alias configurations from a source system to a target system. Because of the errors, OAuth aliases are not listed on the target system, which includes the newly created OAuth aliases. This is because update to the Access Token Secret of the respective OAuth aliases fails on the target system.
  This issue is resolved.

- WST-3918
  When a provider is selected in the Integration Server Administrator, CloudStreams page, the provider label text for the selected provider is not visible.
  This issue is resolved.

- WST-3921
  The "Notify Meta Channel Events" configuration option is available for a CloudStreams connector listener with the connection type defined as “Bayeux HTTP Long Polling” in the Integration Server Administrator, irrespective of whether the “Logging Invocation” action is configured. However, meta channel events are logged in the server log only if the “Logging Invocation” action is configured.
  This issue is resolved.

- WST-3925
  If a connector listener is enabled and the user deletes the actionable service from the Service Development perspective in Software AG Designer, CloudStreams does not notify that the actionable service is not available.

This issue is resolved.

- WST-3930
  Subscription errors for connector listeners with "Bayeux HTTP Long Polling" connection type do not appear on the CloudStreams Administration page if the subscription has failed and the listener is enabled. The errors may be due to connection related issues, wrong subscriber configurations such as invalid or missing PushTopic name, missing or insufficient access permissions, or exceeding the concurrent user limit for the user or organization.
  This issue is resolved.

- WST-3963
  "Enable Debug" option does not work for CloudStreams Streaming configuration.
  Enabling the "Enable Debug" option for the CloudStreams Streaming configuration does not log additional connectivity-related information in the server logs. This is because after upgrading the cometD client library adoption, the "Enable Debug" option can no longer be supported.
  This issue is resolved.

Release 10.3

- WST-3634
  Migration of CloudStreams user assets to v10.2 is not supported.
  The *pub.cloudstreams.migration:migrate* service does not migrate user assets to v10.2. The following error is observed when this service is run on CloudStreams v10.2 with a package containing assets created on an older version:
  "No CloudStreams migrator found for the package."
  This issue is resolved.

- WST-3646
  "SignatureDoesNotMatch" error appears while running an Amazon S3 cloud connector service.
  This error appears if the cloud connector service involves redirection and is created using AWS Signature Version 3.
  This issue is resolved.

- WST-3869
  CloudStreams is not able to handle the parenthesis in query parameters and the request call fails.
  CloudStreams Server is not able to encode the URI containing the parenthesis and due to this, requests are failing.
  This issue is resolved.

- WST-3884
  Cloud connector service execution fails while sending a JSON payload, which contains German characters. This is observed for back ends that use AWS Signature Version 4 for authentication.
  This issue is resolved.

Release 10.2

- WST-3269
  Multiple errors are observed while executing cloud connector services concurrently.
  For some SaaS back ends, errors such as "Read timed out" and "Premature end of Content" are observed while invoking cloud connector services at the same time. This issue is found in the Apache HTTP library, which is currently used in CloudStreams.
  This issue is resolved.

- WST-3241
  Null JSON response is not supported by CloudStreams server.
  If a REST service returns Null as a JSON response, CloudStreams does not recognize or parse the Null JSON response.
  This issue is resolved.

- WST-3344
  CloudStreams Analytics dashboard does not display all the event records for a given date and time.
  In the CloudStreams Analytics dashboard, the grid in the Event tab does not show all the records for a given date and time. This is because MashZone NextGen considers date columns as dimension columns, as far as aggregation is concerned.
  This issue is resolved.

- WST-3352
  Provider charts in the API Usage tab of the CloudStreams Analytics dashboard also display data for inbound invocations.
  The provider charts should display data corresponding to the outbound (cloud connector service) invocations only. However, the charts also display data for inbound invocations, with the provider names being displayed as blank values.
  This issue is resolved.

- WST-3350
  Cloud connector services, which allow multiple operations/objects selection, do not persist duplicate operations/objects in the cloud connector service node.
  From v10.1, the CloudStreams server allows one resource/operation that can take/return multiple operations/objects in the request or response. For example, in the OData connector, you can select an operation as *changeset*, which allows you to select multiple operations/objects. For the *changeset* operation, if you select a combination of "create" and "Account" multiple times, even then it does not get stored in the cloud connector service node.
  This issue is resolved.

- WST-2819
  CloudStreams fails to parse a response when the response formatter/builder is configured as "binary", and the request Accept header is set to "application/json".
  When the response formatter/builder for a cloud connector service is configured to "binary", and the Accept header is configured to "application/json", CloudStreams fails to parse the resulting back end response.
  This issue is resolved.

Release 10.1

- WST-3213
  Issue while adding a custom field as document.
  Cloud connector service allows adding a custom field of type Document. When a custom field data type Document is added to a business object, and the field does not have any child fields, the field appears as a string in the cloud connector service signature.
  This issue is resolved.

- WST-3165
  CloudStreams fails to encode single quotes (') inside a querystring parameter.
  This issue occurs when you invoke back end queries that have single quotes, to quantify certain entity values as part of the filtering criteria, and the criteria is a part of the query string parameter. For example, a query that returns details of an account object for a certain id match is as follows: *Select id from account where id = '84'*. This issue prevents encoding the single quote (), resulting in service execution failure.
  This issue is resolved.

- WST-3165
  CloudStreams fails to encode single quotes (') inside a querystring parameter.
  This issue occurs when you invoke back end queries that have single quotes, to quantify certain entity values as part of the filtering criteria, and the criteria is a part of the query string parameter. For example, a query that returns details of an account object for a certain id match is as follows: *Select id from account where id = '84'*. This issue prevents encoding the single quote (), resulting in service execution failure.
  This issue is resolved.

- WST-3195
  CloudStreams does not throw a fault in case of a stream response, if the cloud connector service execution fails with client side fault issues.
  CloudStreams does not throw a fault in case of a stream response if the cloud connector service execution fails with client side fault issues. Instead of fault, the service execution returns a response with a null body.
  This issue is resolved.

- WST-3192
  Error occurred while enabling the connection.

While enabling the connection, the following errors are found:
Error occurred while enabling the connection: null and *Connections alias already exist*.
This issue is resolved.

- WST-2907
  Some of the alert messages shown in the CloudStreams Admin screens are not localized.
  The connectors enable, disable, and delete alert messages are not localized. The alert message shown while enabling the wire logging is also not localized.
  This issue is resolved.

Release 9.12

- WST-3149
  CloudStreams connector uses the default proxy server alias of Integration Server even if the default proxy server alias is disabled.
  Now CloudStreams does not use the default proxy server alias if it is disabled in Integration Server and skips the proxy route for a connection, if the host name of the connection Provider URL is present in the Integration Server "Proxy Bypass" list.
  This issue is resolved.

Release 9.10

- WST-2378
  CloudStreams does not support creating cloud connector services that have an array of JSON objects without the key/root in the request payload.
  In the absence of a parent root for the collection, it is not possible to represent the objects under the request payload. Because of this limitation, it is not possible to create or invoke services, which expect a root less array in the request payload.
  This issue is resolved.

- WST-2644
  Cloud connector services, which require mapping of parameters, fail to run.
  For a REST based connector, a parameter value cannot be assigned to another parameter by specifying a parameter to parameter mapping. This is because CloudStreams does not support parameter to parameter mapping.
  This issue is resolved. Parameter to parameter mapping is now supported.

- WST-2638
  CloudStreams is unable to handle excludeRoot properties in Request signature using XML.
  For a REST based connector that communicates in XML, if the “excludeRoot” option is set to “true”, then while sending a Request to the back end, CloudStreams is not able to exclude the root of the Request.
  This issue is resolved.

- WST-2639
  Cloud Connector service signature does not populate the picklist values.
  Cloud Connector service signature does not populate the picklist values even if the schema element

has enumeration defined.
This issue is resolved. Now cloud connector service signature field's picklist attributes are populated with enumerated values available from the schema.

CloudStreams Development

Release 10.4

- WCD-1739
  When a connector listener is either enabled or unlocked for edit, the connector listener fields are disabled in the Service Development perspective in Software AG Designer. If multiple Actions are configured, the user is not able to select the Actions to view the details.
  This issue is resolved.

- WCD-1747
  While creating a Schema type abstract object in a SOAP connector, the “Finish” button is not enabled after selecting the service on the “Assign services” page.
  This issue is resolved.

Release 10.3

- WCD-1593
  Multiple connectors having same IDs and located in different servers cannot be opened.
  This issue is resolved.

Release 10.2

- WCD-1318
  Server name changes when a new entry (user) is added to the Integration Server list.
  In Preferences > Integration Servers, adding a new Integration Server with a different user but with the same host name and port shows only one Integration Server.
  This issue is resolved.

- WCD-1341
  Errors observed while creating a connector, if the connector name has spaces.
  This issue is resolved.

- WCD-1348
  Validation errors are observed while creating a connector from a Swagger file.
  While creating a connector using a Swagger file, validation errors are observed in certain cases where the name/id of a connector, resource name, parameter name, header name, and property name contains characters, which are not supported, for example, spaces or special characters in the name.
  This issue is resolved.

6.0 Documentation Changes

This section describes *significant* changes to the documentation, such as the addition, relocation, or removal of product guides, online help, chapters, or other major content. A release is listed in this section only if changes occurred in that release.

CloudStreams Server

CloudStreams Development

Release 10.1

- The CloudStreams Provider Project chapter in the context-sensitive webMethods CloudStreams Development Help has been completely rewritten.

7.0 Terminology Changes

A release is listed in this section only if changes occurred in that release.

Release 10.2

Old Term	New Term
Login/Logout Sequence	Start/Stop Sequence
CFG Parameter	Internal

Release 9.8

Old Term	New Term
Group	Provider Group
Connector Package	Package
Plug-In Content	Connector Content

8.0 Added, Removed, Deprecated, or Changed Items

This section lists functionality, controls, portlets, properties, or other items that have been added, removed, deprecated, or changed. A release is listed in this section only if changes occurred in that release.

CloudStreams Server

Release 10.4

Added Item	Description
Support for multiple authentication schemes in a single connector	In earlier releases, while creating a connector, only one connection type or authentication scheme can be associated with a connector. As some SaaS application providers offer multiple authentication options to access their back end APIs, for example, Salesforce CRM v44, the connector developer needed to create a connector for each authentication scheme, for example, one connector for Basic authentication and another connector for OAuth 2.0 authentication. From this release, a connector developer can build a single connector that supports multiple authentication schemes. You can then select different connection types for the same connector and for the same back end from the connection configuration page in Integration Server Administrator.
Support for generating OAuth 2.0 Tokens while creating connections	In earlier releases, CloudStreams did not have the provision to generate Access Tokens required to configure the connection for OAuth 2.0 authorization. From this release, for some connectors, for example, Salesforce CRM v44, you can generate OAuth 2.0 Access Tokens while creating a new connection from the connection configuration page in webMethods Integration Server Administrator. You can generate OAuth 2.0 tokens using the Authorization Code Flow or the JSON Web Token (JWT) Flow approaches.

Added Item	Description
Clustering support for connector listeners	In earlier releases, CloudStreams connector listeners were not cluster aware. From this release, CloudStreams supports the use of clustering by either distributing the processing load for Streaming API events across Integration Server instances (Multi-Node mode) or limiting the processing to a single Integration Server node (Single-Node mode), while guaranteeing *exactly once* processing in each mode. CloudStreams leverages the distributed cache, which stores data in a Terracotta Server Array to coordinate processing of events between different Integration Server instances. The choice of a cluster support mode for a connector listener is predefined by the connector developer for a back end.
Support for Salesforce replay events	In earlier releases, CloudStreams did not have a mechanism to retrieve and replay lost events in case a SaaS provider sends those events. For example, Salesforce stores standard-volume events for 24 hours. So for versions later than 37.0 in Salesforce, you can now retrieve events if they are within the retention window. You can replay the lost events by selecting the appropriate replay option (ALL or NEW) on the Providers Listener configuration page in Integration Server Administrator.
Update/Upgrade Services Enhancements	The *pub.cloudstreams.admin.service:update* and *pub.cloudstreams.admin.service:batchUpdate* services have been enriched to update the Connector Services from a lower version of the connector API to a higher version having new features like inline connection and multi-part. Further, the new service *pub.cloudstreams.upgrade:batchUpgrade* service updates batches of CloudStreams connector service nodes and connector listener nodes from a lower version of the connector API to a higher version.
Migrate Services Enhancements	The *pub.cloudstreams.migration:migrate* service migrates old CloudStreams Connector services, connections, and connector listeners in custom packages that depend on the WmCloudStreams package, and updates them to be compatible with CloudStreams. The updated migrate service can migrate the Connector Service nodes which has new features like inline connection and multi-part.

Release 10.3

Added Item	Description
Support for streaming at the connector level	You can now use a CloudStreams connector to connect to streaming APIs. You can create a CloudStreams connector listener, select a subscription channel from a list of available channels for an endpoint, and configure the action(s) to be applied on the incoming events.
Support for dynamic/inline connection	You can now run a cloud connector service by passing connection details that are different than the connection details configured in the connection configuration page in webMethods Integration Server Administrator. The cloud connector service input signature is automatically updated based on your selections in the *Connection* panel.
Support for multipart/form-data request payload	You can now send a multipart/form-data payload which contains either a file, or text, or a document type to a service provider. The multipart/form-data payload is supported only at the request level, that is, only in the input signature.
Support for dynamic configurations with Microservices	CloudStreams now allows you to use a configuration variables template to externalize the configuration information and pass the configuration information to the Microservices Runtime at startup. By externalizing configuration information, a single Docker image created for a Microservices Runtime can be used across multiple environments, including different stages of the production cycle. The configuration variables template contains configuration properties that map to properties on the Microservices Runtime. The property values can be set externally in the template and then passed to the Microservices Runtime when it starts up. As part of the startup process, Microservices Runtime loads the information from the configuration variables template and replaces the configuration information stored in the file system.
Deployer support for large payload handling configurations and listeners	Deployer now supports deploying large payload handling configurations and connector level listeners.

Changed Item	Description
CloudStreams User Interface	Selecting a connector from a provider connector list under Integration Server Administrator > CloudStreams, now opens up a tabbed page display. The page defaults to the Connections tab which lists the connections configured for the selected connector. The newly introduced *Listener* tab displays the listeners configured for the selected listener. Additionally, the CloudStreams Administration pages in Integration Server Administrator now use a primary blue colour scheme, which is optimized for accessibility and for brightness.

Release 10.2

Added Item	Description
Changes in connection configuration fields	The following new connection fields are added: • Validate After Inactivity • Enable Compression The following connection fields are updated: • Hostname verifier* • Use Stale Checking** The following connection fields are deleted: • Element Character Set • Wait For Continue Time • Strict Transfer Encoding *The Hostname verifier field exposes the following closed set of updated options: • org.apache.http.conn.ssl.DefaultHostnameVerifier • org.apache.http.conn.ssl.NoopHostnameVerifier **The default value of *Use Stale Checking* has been set to *true*.

Added Item	Description
Support for large data configuration	Large data configuration enables CloudStreams to send and receive large binary streams over HTTP/HTTPS. If the new option *Handle Binary Streams* is enabled, then during outbound and inbound invocations, if the stream is greater than the *Threshold Size (bytes)*, the entire stream is not stored in memory. Threshold Size (bytes) is applicable only if *Handle Binary Streams* is enabled. Before enabling the large data handling capability of CloudStreams, configure the TSpace properties (watt.server.tspace.*) in the webMethods Integration Server Administrator.
MTOM	You can now transmit and receive binary content from SaaS providers in an optimized and efficient way using the Message Transmission Optimization Mechanism (MTOM).
Enhanced Concurrency Support	CloudStreams server now handles concurrent executions of cloud connector services in a more efficient way. This improves how parallel requests are handled without running into concurrency issues.
Enhanced server redirection capabilities	CloudStreams server now supports redirection capabilities with other HTTP methods like PUT and DELETE too. This allows interacting with back ends like AWS S3 for redirected data transfers across different regions and geographies.

Release 10.1

Added Item	Description
Support for form encoded parameter	You can now send simple key value parameters embedded in the Request Body for POST or PUT requests. This uses the default web form encoding, which is *application/x-www-form-urlencoded*.
Support for CloudStreams Analytics dashboard on MashZone NextGen instead of the legacy MashZone	You can now use the CloudStreams Analytics dashboard with Software AG Mashzone NextGen Server.
Support for deploying CloudStreams user-created assets using webMethods Deployer	You can now deploy CloudStreams user-created assets such as connections, connector services, and administrative assets or configurations such as oauth token, streaming provider, streaming subscriber and database settings that reside on source webMethods repositories to target webMethods runtime components (runtimes) using webMethods Deployer. You can deploy CloudStreams user-created assets in repository-based deployment only.

Added Item	Description
Support for Single or Multiple Operations and Multiple Business Objects with dependencies	Software AG Designer now displays different Business Object panels based on the following scenarios: • Single Operation has a single Business Object • Single Operation has multiple Business Objects • Single Operation has multiple Business Objects with dependencies • Multiple Operations have multiple Business Objects • Multiple Operations have multiple Business Objects with dependencies
Support for nested, hierarchical, or multi-level business objects	Software AG Designer now displays nested, hierarchical, or multi-level business objects if the resource is designed to support nested business objects. You can expand the nested business objects to display the child-level objects.
Support for NTLM basic authentication	CloudStreams now supports NT LAN Manager (NTLM) authentication protocol. CloudStreams provides basic support for NTLM authentication protocol using the credentials connection group. Limited support is available in this release.
Support for service signatures for back ends having very complex nested document structures	You can now create service signatures for back ends with extremely complex and deep signature structures.
Support for adding nested custom fields in the cloud connector service business object fields.	You can now add complex nested custom fields while selecting a cloud connector service business object field. This is useful for SaaS back ends where the metadata is dynamic, for example, Amazon DynamoDB.

Release 9.12

Added Item	Description
Support for Transport Layer Security (TLS) 1.1 and 1.2	CloudStreams now supports the latest versions of TLS standard v1.1 and v1.2. Using Java Secure Socket Extension (JSSE) based libraries, CloudStreams supports TLS v1.1 and v1.2 for outbound connections.

Added Item	Description
Wire logging message	If you now enable the **Connection factory wire logging** option from the **CloudStreams > Administration > Genera**l screen in the Integration Server Administrator, a warning message appears. The message informs the side effects of turning on this setting.

Changed Item	Description
Regrouping between *Basic* and *Advanced* views and reordering of fields within the *Credentials*, *Transport Protocol*, and *Request Headers* connection groups.	**Authentication Type** field is now moved ahead of the **Preemptive Auth** field so that fields in the **Basic** view stay ahead of the fields visible in the **Advanced** view for the **Credentials** connection group. **Element Character Set** and **Strict Transfer Encoding** fields are moved to the **Advanced** view for the **Transport Protocol** connection group. **Request Header Names** and **Request Header Values** fields are moved to the **Advanced** view for the **Request Headers** connection group.

Release 9.10

Deprecated Item	Replacement, if any
Software AG MashZone based CloudStreams Analytics dashboard.	The Software AG MashZone based CloudStreams Analytics dashboard is deprecated from this release.

Changed Item	Description
CloudStreams User Interface	The HTML-based utility used to administer webMethods CloudStreams has a new look and feel. Menu and screen locations have not changed and there is no change in the User Interface functionality.

CloudStreams Development

Release 10.3

Added Item	Description
Support for assignments on Cookies and Service Context	You can now apply assignments on Cookies and Service Context.

Added Item	Description
Support for applying assignments at the Resource Group level	You can now apply assignments at the *Resource Group* level, which enables you to apply assignments to each resource and operation in the selected Resource Group. Further, assignments are applied in the sequence they appear in the *Configure Assignment* panel.

Release 10.2

Added Item	Description
Change the sequence of assignments	You can now change the sequence of both local and global assignments. The assignments will be applied in the sequence they appear in the *Order* pane.
Support for Start and Stop sequences	You can now define optional Start and Stop sequences, which allow you to manage the connection behavior for both REST-based and SOAP-based providers. Start and Stop sequence is currently in BETA.
Support for moving and copying elements	You can now cut, copy, and paste request parameters, request headers, and response headers for REST-based connectors. For SOAP-based connectors, only request parameters can be currently moved or copied.
Enhanced provider package import process	Import process has been enhanced and allows you to import a provider package as an archive file or import the package from a workspace. Importing published packages is currently in BETA.
Refresh providers and connectors	Refresh button has now been added for enhanced usability to sync assets between the plugin and server for providers and connectors.
Support for Record type Parameter Formatter	You can now add record type parameter formatters. A new parameter style *Record (as Query)* has been added, which is a complex record structure representation, split into one or more query string parameters.

Release 10.1

Added Item	Description
Redesigned connector development plug-in	In this release, the *CloudStreams Provider Project* in the CloudStreams connector development plug-in has been redesigned and enhanced for better usability. **Note:** SOAP connector development is in BETA.

Deprecated Item	Replacement, if any
Old connector development plug-in	New connector development plug-in.

Release 9.12

Changed Item	Description
Icons updated to reflect changes in corporate branding.	Icons are updated in Perspectives, Views, Welcome screen, and About contributions.

Release 9.10

Removed Item	Replacement, if any
Redundant fields in REST service interface	**Serialization type** fields are removed from the Cloud Connector Service (REST) > Resource tab > **Request Processing** section. **Parsing type** fields are removed from the Cloud Connector Service (REST) > Resource tab > **Response Processing** section.

9.0 Added, Removed, Deprecated, or Changed Built-In Services

A release is listed in this section only if changes occurred in that release.

CloudStreams Server

Release 10.4

Added Service	Description
pub.cloudstreams.upgrade:batchUpgrade	This service updates batches of CloudStreams connector service nodes and connector listener nodes from a lower version of the connector API to a higher version.

Added Service	Description
wm.cloudstreams.listener.metadata.connection:registerExtension	This service registers cometd extensions in the process of listener enablement.

Release 10.3

Added Service	Description
pub.cloudstreams.admin.listener:enable	Enables an existing listener.
pub.cloudstreams.admin.listener:disable	Disables an existing listener. Also, disconnects the listener.
pub.cloudstreams.admin.listener:queryListenerState	Returns the current listener state (enabled/disabled) for a listener node.
pub.cloudstreams.admin.listener:listEnabledListeners	Returns a list of aliases for listeners in enabled state for a given connection alias.
pub.cloudstreams.admin.listener:update	Updates a CloudStreams connector listener node with a new set of inputs.

10.0 Copyright Information

11.0 Support

Visit the Empower website to learn about support policies and critical alerts, read technical articles and papers, download products and fixes, submit feature/enhancement requests, and more.

Visit the TECHcommunity website to access additional articles, demos, and tutorials, technical information, samples, useful resources, online discussion forums, and more.

WCD-WST-RM-104-20190415