Oracle® Cloud

What's New for Oracle Integration Cloud Service

Release 16.4.5

This release of Oracle Integration Cloud Service includes two new adapters (DB2 Adapter and Oracle Logistics Adapter) and enhancements to the REST Adapter, SOAP Adapter, FTP Adapter, and Salesforce Adapter. Enhancements are also provided for orchestrated integrations, scheduled integrations, orchestrated integration creation options, custom adapter uploads, Expression Builder functions, XPath extension functions, exported/imported integrations, diagnostic logs, and REST APIs. See below for details.

Topics

- December 2016

- October 2016

- August 2016

- June 2016

December 2016

Feature	Description
Oracle DB2 Adapter	The DB2 Adapter enables you to run stored procedures or SQL statements against an IBM DB2 database. Distributed polling and multithreading support are also provided. See *Using the DB2 Adapter*.
Oracle Logistics Adapter	The Oracle Logistics Adapter enables you to create an Oracle Integration Cloud Service connection to a specific Oracle Logistics Cloud (Transportation Management and Global Trade Management) instance. The connection can then be used to create an integration that calls Oracle Logistics Cloud web services and exposes a web service that Oracle Logistics Cloud can call. See *Using the Oracle Logistics Adapter*.

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Feature	Description
REST Adapter - Patch verb support	You can select the Patch verb (HTTP action) for the endpoint to perform. This action partially updates existing resources (for example, when you only need to update one attribute of the resource). See *Using the REST Adapter*.
REST Adapter - multipart response support	Multipart/form-data and multipart/mixed responses are supported. This feature enables the REST Adapter to download artifacts from RESTful web services that return a multipart response. Support is implemented on the request and response messages for triggers and invokes. See *Using the REST Adapter*.
REST Adapter - TLS support	Transport Layer Security (TLS) version selection for the target server is supported. The TLS protocol provides privacy and data integrity between two communicating computer applications. See *Using the REST Adapter*.
REST Adapter - inbound invocation in Swagger format	You can view the metadata of an activated REST integration and then append `/swagger` to the metadata URL to view the swagger format for the integration. The inbound REST integration can then be exposed as a swagger connection. See *Using the REST Adapter*.
SOAP Adapter - custom and standard HTTP and SOAP header support	You can add SOAP and/or HTTP headers to outbound and inbound requests and handle the responses with headers to propagate back to the user. You can configure standard and/or custom SOAP/HTTP headers on the SOAP Adapter. This enables header configuration for the inbound service and header propagation to the outbound service. All header information and body elements are encapsulated under a single element so that the mapper can display all information. See *Using the SOAP Adapter*.
SOAP Adapter - multiple part messages in document-style WSDLs support	Multiple part messages in document-style WSDLs are supported. The support is provided for both inbound and outbound adapter configurations. See *Using the SOAP Adapter*.
FTP Adapter	When creating the schema file to use from a comma-separated value (CSV) file, you can select to make all elements optional in the schema file. See *Using the FTP Adapter*.

Feature	Description
Salesforce Adapter - AllOrNoneHeader parameter enhancements	The AllOrNoneHeader parameter behaves differently based on the integration flow version. For version 16.4.1 and later, if set to true (that is, selected and there are error elements), it maps to `UnexpectedErrorFault`. If set to false (that is, unselected), the adapter returns the whole response even if it contains error elements along with success elements in the response. See *Using the Salesforce Adapter*.
Orchestrated orchestrations	• Application event or business object: uses an event or a business object to trigger the integration. • Schedule: uses a schedule to trigger the integration instead of an adapter. See *Using Oracle Integration Cloud Service*.
for-each actions in orchestrated integrations	You can loop over a repeating element and execute one or more actions within the scope of the for-each action. The number of loop iterations is based on a user-selected repeating element. See *Using Oracle Integration Cloud Service*.
Expression Builder XPath enhancements	You can include XPath axis and wildcard expressions in the Expression Builder. See *Using Oracle Integration Cloud Service*.
BPEL XPath extension functions support	You can include BPEL XPath extension functions in your data mappings. See *Using the Oracle Mapper*.
Exported integration with lookups referenced using the `lookupValue` function	You can export integrations that include lookups referenced using the `lookupValue` function in the Expression Builder. When you import the integration, the referenced lookups are also imported and are visible in the Expression Builder. See *Using Oracle Integration Cloud Service*.
POD name in the static log header	You can obtain the impacted POD name from the diagnostic logs. See *Using Oracle Integration Cloud Service*.
iCal expression support	You can schedule integration runs with iCal expressions. See *Using Oracle Integration Cloud Service*.
Display of errors and warnings in orchestrated integrations	If there are errors or warnings in an orchestrated integration, an **ERRORS** section is displayed on the left side. These errors and warnings prevent you from activating an integration. You must first resolve these issues to activate an integration. See *Using Oracle Integration Cloud Service*.

Feature	Description
REST API monitoring and error enhancements	The REST API provides support for monitoring and errors with the ability to set start and end times in a query and provide details for failed instances. See *Oracle Integration Cloud Service REST API*.
Compliance with REST Version 1.2	REST Version 1.2 is also supported. This version uses a different URL. See *Oracle Integration Cloud Service REST API*.
Importing map files into orchestrated integrations	You can import a map file that was previously exported from the same integration. This action overwrites the existing mapping file. For example, you can export the map from a specific integration, edit the XSL file as per a user requirement, save it, and import it back into the same integration. See *Using Oracle Integration Cloud Service*.
Creating drafts of integrations	You can create a draft of an integration. This provides an easier way to create a copy of an integration. During draft creation, you must update the version of the integration and optionally update the package and description. However, unlike a cloned integration, you cannot update the integration name or identifier. See *Using Oracle Integration Cloud Service*.
Custom adapter upload and registration	You can upload and register user-created, custom adapters in Oracle Integration Cloud Service. This action makes the adapter visible in the Oracle Public Cloud. See *Using Oracle Integration Cloud Service*.
New orchestration video	This video shows you how to orchestrate data from a secure FTP endpoint to Oracle ERP Cloud by using the new orchestration pattern in Oracle Integration Cloud Service. See *File-based Integration for ERP Cloud with Oracle Integration Cloud Service* on the Oracle Help Center Videos tab.

October 2016

Feature	Description
Oracle Utilities Adapter	The Oracle Utilities Adapter lets you integrate the Oracle Utilities application suite with other Oracle applications such as Oracle Enterprise Resource Planning (ERP). You can integrate: • On-premise Oracle Utilities applications with Oracle Cloud applications. • Oracle Utilities Customer Care and Billing with Oracle ERP Cloud. • Oracle Utilities Meter Data Management with Oracle Opower. See *Using the Oracle Utilities Adapter*.
Oracle Eloqua Cloud Adapter - trigger support	Trigger (inbound) support is provided for the Oracle Eloqua Cloud Adapter. This enables Oracle Eloqua Cloud to trigger an integration in Oracle Integration Cloud Service. See *Using the Oracle Eloqua Cloud Adapter*.
SOAP Adapter - outbound invocation of asynchronous services with WS-addressing	Asynchronous callback response support is provided in the invoke (outbound) direction. This feature is supported if your WSDL includes a port type with `Callback` or `Response` in the `portType` value and an operation with `Response` in the `operation name` value. You must design another integration flow to receive the callback response. See *Using the SOAP Adapter*
SOAP Adapter over JCA - default transfer mode	SOAP over JCA is the default transport mode for the SOAP adapter, replacing the HTTP transport mode. All inbound and outbound SOAP sources in Oracle Integration Cloud Service (for example, enrichments, target and routing points, and so on) use the JCA transport protocol. See *Using the SOAP Adapter*.
REST APIs /status and /usage	The /status API can be queried for system health status (runtime, storage, messaging, and security services). The /usage API returns metrics for system design-time (adapters, agent, application instances, lookups, integrations, packages, and runtime - messages and messaging system). See *REST API for Integration Cloud Service*.

Feature	Description
Cloud Adapter Guides	The cloud adapters that previously appeared in *Using Oracle Integration Cloud Service* have been moved to their own separate guides: • *Using the NetSuite Adapter* • *Using the Oracle CPQ Cloud Adapter* • *Using the Oracle Eloqua Cloud Adapter* • *Using the Oracle ERP Cloud Adapter* • *Using the Oracle HCM Cloud Adapter* • *Using the Oracle Messaging Cloud Service Adapter* • *Using the Oracle RightNow Cloud Adapter* • *Using the Oracle Sales Cloud Adapter* • *Using the REST Adapter* • *Using the Salesforce Adapter* • *Using the SOAP Adapter*
New orchestration video	A new video describing orchestrated integrations is available in the Videos tab of the Oracle Help Center. See *Working with Orchestrated Integrations in Oracle Integration Cloud Service* on the Oracle Help Center Videos tab.

August 2016

Feature	Description
Scalar variable support	You can assign values to scalar variables in orchestrated integrations using the Expression Builder. Variable assignments can be of great complexity, such as using assignments in switch activities and in maps. See Creating an Orchestrated Integration of *Using Oracle Integration Cloud Service*.
Design-time incident reports	You can report and download incidents for problematic issues that occur during design time (for example, being unable to open an integration, the failure of connection testing, or the failure of artifact regeneration). See Reporting Incidents of *Using Oracle Integration Cloud Service*.
Trace logging level tuning	You can set logging levels to more granular trace levels to debug issues. See Setting Logging Levels of *Using Oracle Integration Cloud Service*.

Feature	Description
Oracle JD Edwards EnterpriseOne Adapter- outbound integration support	Oracle JD Edwards EnterpriseOne Adapter supports Java EE Connector Architecture (JCA) and web service standards for creation of open and reusable service-oriented applications (SOA). The Oracle JD Edwards EnterpriseOne Adapter uses the JD Edwards Gen Java API to synchronously invoke JD Edwards transactions. The adapter listener asynchronously receives business events from the JD Edwards application system. Requests are placed in the JDE interface tables and pushed to the adapter listener. See *Using the Oracle JD Edwards EnterpriseOne Adapter*.
Oracle Advanced Queuing (AQ) Adapter - inbound integration support	The Oracle AQ Adapter provides a mechanism for bidirectional, asynchronous communication between participating applications. The Oracle AQ Adapter produces Oracle Advanced AQ messages. The dequeue operation is exposed as a JCA inbound interaction. The Oracle AQ Adapter supports normalized properties for dequeue operations. See *Using the Oracle Advanced Queuing (AQ) Adapter*.
SAP Ariba Adapter - outbound integration support	SAP Ariba is a cloud-based B2B application that connects buyers and sellers. The application allows sellers to manage their catalogs, bids, purchases, and invoices and provides buyers with the ability to search for suppliers, negotiate savings, procure goods and services, and track spending. See *Using the SAP Ariba Adapter*.
Concur Adapter - outbound integration support	The Concur Adapter allows you to quickly import expense categories, employee data, customers, classes, and jobs. Use the Concur Adapter to eliminate duplicate manual data entry and achieve faster data synchronization. See *Using the Concur Adapter*.
Oracle FTP Adapter enhancements	The following enhancements are provided: • You can now upload the Pretty Good Privacy (PGP) public keys for encrypting and decrypting the payload from the Connections page. See Configuring Connection Security of *Using the FTP Adapter*. • The delete and read file operations are supported in orchestrated integrations. See Adding the FTP Adapter Connection to an Orchestrated Integration of *Using the FTP Adapter*.

Feature	Description
Oracle E-Business Suite Adapter - support for concurrent programs as invokes (targets)	The Oracle E-Business Suite Adapter supports outbound integrations with concurrent programs from Oracle Integration Cloud Service when adding the Oracle E-Business Suite Adapter as invoke (target) connections. In addition to PL/SQL REST services, concurrent programs are now available as REST services for invocation from Oracle Integration Cloud Service. See *Using the Oracle E-Business Suite Adapter*.
Lookup function support	You can create variable assignments in orchestrated integrations that use lookups and the `lookupValue` function. See subsection Using Lookups in Variable Assignments of Creating an Orchestrated Integration of *Using Oracle Integration Cloud Service*.
REST API enhancements	REST APIs are provided for the following: • Error pages • Message resubmission and discarding See REST API for Integration Cloud Service.
Email notifications	You can notify users by email when a service failure occurs (for example, the runtime or storage service is down) or with hourly or daily reports about the total messages received, total messages processed, successful messages, failed messages, and successful message rate. See Sending System Status Reports and Service Failure Alerts by Email of *Using Oracle Integration Cloud Service*.
Error resubmission, message aborts, and payload access in orchestrated integrations	You can resubmit errors, abort messages, and access payloads in orchestrated integrations. See Managing Errors of *Using Oracle Integration Cloud Service*.
Multiple selection filtering in the Oracle Mapper and Expression Builder	When using the filter utility in the Oracle Mapper or the Expression Builder, you can select to filter both required and custom fields together. See *Using the Oracle Mapper* and *Using Oracle Integration Cloud Service*.
Build Lookup Function wizard support in the Oracle Mapper	The Build Lookup Function wizard can be invoked in the Oracle Mapper. In previous releases, this wizard was only supported in the Expression Builder. See *Using the Oracle Mapper*.

Feature	Description
Adapter endpoint edits do not necessarily delete maps	When editing adapter endpoint information in an integration, the mappings are not necessarily deleted. For example, minor edits such as changing the endpoint description do not delete the existing mappings. Major edits such as changing the selected business objects or operations do delete the mappings. In either case, you are always prompted to confirm before this action occurs.
	See Editing the Endpoint Information in an Integration of *Using Oracle Integration Cloud Service*.
REST Adapter enhancements	The following enhancements are provided: • Asynchronous inbound support • Trigger role-related changes in the Connections page See Oracle REST Adapter Capabilities of *Using Oracle Integration Cloud Service*.
Oracle Sales Cloud Adapter	The Oracle Sales Cloud Adapter inbound endpoint WSDL interface supports the use of concrete values for custom business objects in the WSDL in place of `xsd:anyType` parameters. This feature enables you to use the groovy script editor to create scripts to invoke integrations.
	See Oracle Sales Cloud Capabilities of *Using Oracle Integration Cloud Service*.

Feature	Description
Oracle SOAP Adapter	The following enhancements are provided: • Support for the Transport Layer Security (TLS) version of the target server. The TLS protocol provides privacy and data integrity between two communicating computer applications. • Support for suppressing the version of the timestamp in the WS-Security header. If you select **No**, clients are expected to send a timestamp in the WS header with the request. • Support for utilizing 16.3.3 SOAP Adapter runtime functionality or 16.2.5 SOAP Adapter runtime functionality in an integration. You configure this option on the Basic Info page of the Adapter Endpoint Configuration Wizard. • Support for disabling SOAP action validation for inbound requests on the Operations page of the Adapter Endpoint Configuration Wizard. This is useful for environments in which your WSDL includes custom code and you want to bypass validation. See Specifying the SOAP Adapter WSDL and Additional Properties of *Using Oracle Integration Cloud Service*.
Oracle Database Adapter	The Oracle Database Adapter is certified to connect to Oracle Database Cloud Service through the on-premises agent. You install the on-premises agent on the Oracle Database Cloud Service instance, then provide Oracle Database Cloud Service instance-specific connection parameters on the Connections page. See About Oracle Database Adapter Capabilities of *Using Oracle Database Adapter*.
Designer landing page updates	The landing pages in Oracle Integration Cloud Service have been updated with a new look and feel.

June 2016

Feature	Description
Orchestration enhancements	You can create synchronous, asynchronous, and fire-and-forget (no response) orchestrated integrations in Oracle Integration Cloud Service that use Oracle BPEL Process Manager orchestration capabilities. The following enhancements are provided with this release: • End-to-end support for asynchronous and fire-and-forget triggers. • Support for callback activities (to end an integration and respond back to the trigger) and end activities (to end an integration without responding back to the trigger) in asynchronous integrations. • Tracking Details page support. • Enhancements for adjusting the layout of the integration in the canvas. See Creating an Orchestrated Integration and Tracking Business Identifiers in Integrations During Runtime of *Using Oracle Integration Cloud Service*.
Scheduler Submit Now URL link	You can create ad-hoc runs of integrations on which a schedule has been defined from the Integrations page. This is useful for when you want to test a scheduled integration. See Creating Ad-Hoc Integration Runs of *Using Oracle Integration Cloud Service*.
Connection role	Select the role (direction) in which to use a connection (trigger, invoke, or both). Only the roles supported by the selected adapter are displayed for selection. When you select a role, only the connection properties and security policies appropriate to that role are displayed on the Connections page. See Creating a Connection of *Using Oracle Integration Cloud Service*.
On-premises Oracle Integration Cloud Service	The following enhancements are provided: • Activating and running scheduled integrations. • Using the Oracle Database, MySQL, and Microsoft SQL Server Adapters. See Using On-Premises Integration Cloud Service of *Using Oracle Integration Cloud Service*.

Feature	Description
Diagnostics enhancements	The following diagnostic enhancements are provided: • Viewing integrations by their adapter types on the Dashboard page. • Improved Dashboard page monitoring. • Diagnostic log downloads on the Dashboard page, Runtime Health page, and Integrations page when integration activation fails. See Monitoring Integration Cloud Services of *Using Oracle Integration Cloud Service*.
Lookup creation – domain name support	You can now specify a domain name when designing a lookup to create reusable tables that map the different terms used to describe the same item across your applications. See Adding Adapters or Domain Names to a Lookup of *Using Oracle Integration Cloud Service*.
User interface improvements	The following user interface enhancements are provided: • Integration activation and deactivation progress bar. • Maintenance mode message to indicate that a POD is currently undergoing maintenance (such as an upgrade to a new release). • Reusable source tree filter when creating business identifiers for tracking. • Web Console toolbar look and feel improvements and enhanced search filtering patterns.
Oracle RightNow Cloud Adapter - custom attributes support	Support is provided for custom attributes in business objects to make use of the Oracle RightNow application's support for custom attributes. See Oracle RightNow Cloud of *Using Oracle Integration Cloud Service*.

Feature	Description
REST Adapter enhancements	The following enhancements are provided: • Extensibility support for multiple OAuth providers: Use the extensibility framework of the REST Adapter to access the OAuth-protected resources of endpoints. This framework enables you to access endpoints that have implemented their own variations of OAuth. • Outbound support for Swagger and RESTful API Modeling Language (RAML) endpoints. • Support for integrating on-premises REST APIs with Oracle Integration Cloud Service through use of the on-premises agent. • Support for multipart attachments for invoke (outbound) requests. See REST Adapter of *Using Oracle Integration Cloud Service*.
Oracle Responsys Adapter - outbound integration support	Use the Oracle Responsys Adapter to collect and organize customer data from disparate sources, distribute marketing information to specific audiences, and interact with customers in real time. You can orchestrate and communicate offers to customers through web sites, mobile devices, social media, direct mail, and email. See *Using the Oracle Responsys Adapter*.
Twilio Adapter - outbound integration support	The Twilio Adapter provides the following benefits: • Enables developers to embed voice, messaging, and video into software applications. • Brings voice, video, SMS, MMS, and real-time IP communications together into a single platform, available from one common API. • Removes the requirement for separate equipment, protocols, and software and enables developers to focus on building solutions for the task. • Provides a range of developer tools, helper libraries, documentation, and support services to help resolve issues quickly. See *Using the Twilio Adapter*.

Feature	Description
Oracle E-Business Suite Adapter - support for business events and XML Gateway messages as triggers	The Oracle E-Business Suite Adapter enables you to integrate with business events and XML Gateway messages as inbound integrations in Oracle Integration Cloud Service when adding the Oracle E-Business Suite Adapter as a trigger connection. When a business event is raised in Oracle E-Business Suite at runtime, the Oracle E-Business Suite Adapter propagates the event details from Oracle E-Business Suite to Oracle Integration Cloud Service. When an XML Gateway outbound transaction occurs in Oracle E-Business Suite at runtime, this message is enqueued to the ECX_OUTBOUND queue as an existing XML Gateway process. Oracle Transport Agent (OTA) from Oracle XML Gateway fetches the message from the queue and posts it to Oracle Integration Cloud Service. See *Using the Oracle E-Business Suite Adapter*.
ServiceNow Adapter - inbound integration support	Support is provided for configuring the ServiceNow Adapter as a trigger in an integration. See *Using the ServiceNow Adapter*.
MySQL Adapter - inbound integration support	Support is provided for configuring the MySQL Adapter as a trigger in an integration. Distributed polling and multithreading support are also provided. See *Using the MySQL Adapter*.
Oracle Siebel Adapter enhancements	The following enhancements are provided: • IP 215 certification • TLS support See *Using the Oracle Siebel Adapter*.
Oracle Database Adapter enhancements	Support is provided for distributed polling and multithreading, on-premises agent certification, and Oracle WebLogic Server Work Manager configuration. See *Using the Oracle Database Adapter*.
Microsoft SQL Server Adapter enhancements	Support is provided for distributed polling and multithreading. See *Using the Microsoft SQL Server Adapter*.
On-premises agent upgrade	Upgrade patching is enhanced, including automatically downloading the upgrade patch when performing the upgrade. See Upgrading the On-Premises Agent from Release 16.2.1 to Release 16.2.5 of *Using Oracle Integration Cloud Service*.

Feature	Description
Expression Builder and Mapper enhancements	The following enhancements are provided: • Using the Source tree filter to search for required fields in the Expression Builder, Mapper, and Business Identifier Tracker. • Support for substitution groups in schemas. • Support for loading multiple tree nodes. See Creating Routing Expression Logic in Both Expression Mode and Condition Mode and Assigning Business Identifiers of *Using Oracle Integration Cloud Service* and About Mapping of *Using the Oracle Mapper*.
`lookupValue` Build Lookup Function wizard in the Expression Builder	You can create the parameter values for the `lookupValue` function in the Expression Builder with the Build Lookup Function wizard. This wizard enables you to define the lookup table, source column, target column, and default value to use in the function. See Creating the lookupValue Function in the Expression Builder of *Using Oracle Integration Cloud Service*.
Error handling - message recovery status	You can search for and view the status of failed messages that have been submitted for recovery. See Viewing the Status of Message Recovery of *Using Oracle Integration Cloud Service*.

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