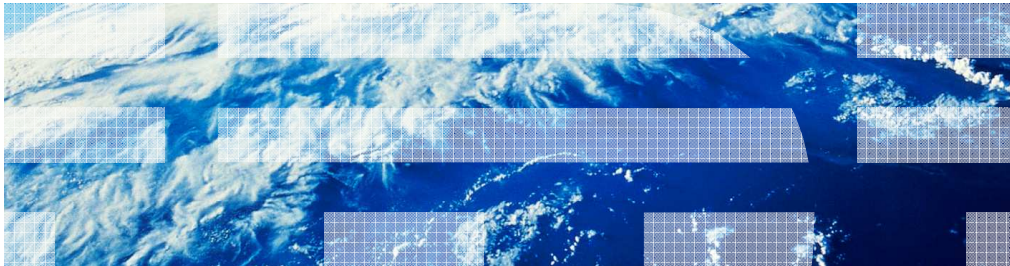


WebSphere® Business Process Management Suite V7.0

WebSphere Adapters V7.0 Migration



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This presentation covers the migration infrastructure of the IBM WebSphere adapters V7.0.

Agenda

- Migration Overview
- Migration Infrastructure Support
- Migration Wizard
- Rollback Migration
- Summary

This presentation starts with an overview of migration infrastructure, then introduces the migration wizard steps for each migration infrastructure. At the end, you will get to look at how migration rollback in case of migrating errors.

Migration overview

This section provides the overview of the migration in V7.0

Overview: goals

- Minimal user input to achieve the same results
- Old settings are preserved wherever possible.
- Minimize development effort for particular instances
 - Provide a flexible, generic infrastructure that can be reused from release to release and adapter to adapter.
 - Metadata driven approach wherever possible.
 - Default implementations for typical tasks.
 - Well defined extension points and APIs for adapter specific contributions.
 - Helper classes, utilities.
 - Isolate adapter specific contributions from the complexities of the underlying technologies used for development (Eclipse frameworks, models)

The goal of this migration infrastructure is to establish common mechanisms to automatically migrate from the previous version to the new version of the adapters. The goals listed here are addressed through this approach. This migration infrastructure requires minimal user input to achieve the same results, since old settings are preserved wherever possible. It also minimizes development efforts and provides a generic infrastructure to be reused from release to release and adapter to adapter.

Overview: compatibility with earlier versions

- Support compatibility with earlier versions
 - Supports V6.1 and V6.2
 - Artifacts and configurations do not need to change
 - Same functionality runs unchanged
- Upgrade procedures with new adapter RAR through:
 - WebSphere Integration Developer
 - Run the migration wizard
 - De-select dependent modules
 - WebSphere Process Server runtime
 - From administrative console, select the application
 - Navigate to the RAR module
 - Select it and choose option Update
 - Update existing RAR file with new RAR file

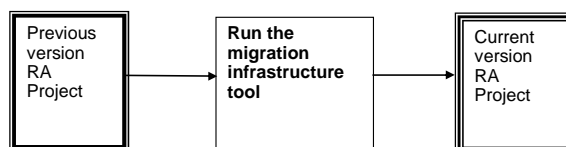
WebSphere adapters V7.0 are fully compatible with V6.2 and V6.1 of the adapter and can work with custom business objects and data bindings. And because WebSphere adapters are fully compatible with V6.2 and V6.1, any of your applications that used V6.2 or V6.1 of WebSphere adapters run unchanged when you upgrade to V7.0. In this case, artifacts and configurations of the adapter client applications do not need to change with the new version of the adapter. It means that all the old functionality runs unchanged or better. To upgrade with a new adapter resource archive, or RAR, you have two options. You can upgrade through WebSphere Integration Developer by running the migration wizard and de-selecting dependent modules; this means only the RAR file gets upgraded and dependent modules remain unchanged. Or you can update the existing RAR file with a new RAR file using the administrative console of WebSphere Process Server.

However, if you want your applications to use features and functionality present in version V7.0 of the adapter, run the migration wizard. The migration wizard upgrades V6.2 or V6.1 of the adapter with V7.0 and enables V7.0 features and functionality for use with your applications.

Migration infrastructure support

This section provides different type of support in migration infrastructure

Migration infrastructure



- Need to seamlessly update application artifacts and configurations to the latest version
 - Established common mechanisms
 - Provide to users a way to automatically migrate from the previous to the new version of adapters
 - Supported prior release for all adapters – V6.0.2.x, V6.1.x, and V6.2.x

In the case of compatibility with earlier versions, you might be running with some deprecated interfaces and configurations and might not take advantage of the new interfaces and configurations. In order for you to seamlessly update the application artifacts and configurations to the latest version, automatic migration tools are provided.

The scope of the modifications includes the connector project and the artifacts generated by external service. The migration wizard does not create components or modify existing components, such as mappers and mediators to work with V7.0 of the adapters.

Migration infrastructure objective

- Provide a first-class migration solution for migrating from
 - WBIA → JCA Migration
 - JCA → JCA Migration
- Adapter Migration Tasks
 - Update the connector project with V7.0 Adapter RAR
 - Update the module project, .import/.export/.wsdl files
 - Update new features and enhancements in V7.0

In this release, WebSphere adapters provides a first class migration solutions for customers migrating from WBIA to JCA and JCA to JCA adapters. The adapter migration wizard has been enhanced to provide support for both WBIA and previous JCA adapter projects to be at the latest version. Some of the adapter migration tasks includes providing ability to update the connector project to V7.0, convert ASI in business object schemas, updating the bindings and wsdl files. It also updates any new features and enhancements that V7.0 has offered.

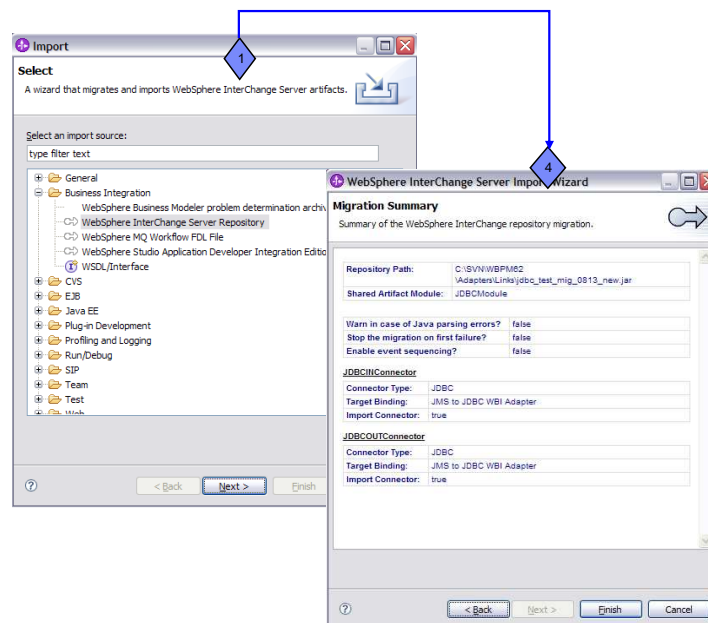
WBIA → JCA migration

- Migration Wizard Flow
 - Import WebSphere InterChange Server Repository JAR
 - Run Rational workspace migration
 - .classpath and .settings modification
 - Server runtime selection
 - Run adapter migration wizard

These are steps in migrating WebSphere Business Integration Adapters (WBIA) projects to be fully JCA-compliant. The WebSphere InterChange Server Repository (WISR) importer is used to import the ICS project and migrate the artifacts to WebSphere Process Server (WPS) compatibility. The WISR importer migrates the WebSphere Business Integration artifacts to the state where such projects are compatible with WPS. However, the adapter-specific artifacts such as service descriptors, service definitions, and business objects are not fully migrated by the WISR importer migration processes. The adapter migration wizard fully migrates these artifacts to the format supported by the respective JCA adapters.

WBIA → JCA migration

- Import WISR file
 - Specify shared artifact module
 - Configure migration setting for each connector
 - Conversion Options
 - Migration Summary
 - Migration Result



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WebSphere Adapters V7.0 Migration

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Before running the adapter migration wizard, use the WebSphere InterChange Server Repository (WISR) importer to generate the application artifacts for the WebSphere business integration adapter, including the business objects, maps, and collaborations. First, you specify the location of the artifact module that you want to migrate, then configure migration setting for each connector within that module. Next, there is option for conversions and last but not least, the migration summary allows you to review for accuracy before migration.

If no errors are reported during the migration of the WebSphere InterChange Server jar file, then the migration of the artifacts was successful. If the migration has not completed successfully, a list of errors, warnings, and informational messages are displayed. You can use these messages to verify the WebSphere InterChange Server migration.

JCA → JCA migration

- Migrate previous version JCA adapters to the current JCA adapters
 - JCA V6.2.x → JCA V7.0
 - JCA V6.1.x → JCA V7.0
 - JCA V6.0.2.x → JCA V7.0
- Migration Wizard Flow
 - Import previous project interchange (6.0.2.x/6.1.x/6.2.x)
 - Run Rational workspace migration wizard
 - .classpath/.settings modification
 - Server runtime selection
 - Run adapter migration wizard

For JCA to JCA migration, user can migrate a project or EAR file to V7.0 by using the adapter migration wizard. As mentioned previously, the migration wizard upgrades V6.0.2, V6.1, or V6.2 of the adapter with V7.0 and enables V7.0 features and functionality for use with your applications. The following steps describe how to run the adapter migration wizard while in the business integration perspective in WebSphere Integration Developer. Import the project interchange (PI) for an existing project or the EAR file for a deployed application into the workspace. Once completed, run the workspace migration wizard to migrate workspace metadata. WebSphere Integration Developer workspace ensures the adapter project is at the supported version to be run together. Last, run the adapter migration wizard to complete the migration.

JCA → JCA migration - outbound

- Faults enablement
 - Previously
 - No automating enablement of Faults
 - Remain same configurations before and after migration
 - Manual add related faults tags
 - With V7.0
 - Supports enablement of fault handlings
 - JCA → JCA migration
 - WBIA → JCA migration

Although faults bindings was enabled automatically for most adapters in previous versions, there has not been automated enablement of faults for migration. The adapter remains the same configuration before and after migration. In the case where user wants to enable fault bindings after migration, manually add related faults tags are required.

With V7.0, the migration infrastructure now supports enablement of fault handlings. This applies to both WBIA to JCA and JCA to JCA migration. User is not required to add the fault tags which can eliminate unnecessary errors.

JCA → JCA migration - inbound

- Inbound supports event filtering by connectorID
 - Backup data from event table
 - Drop the event table
 - Manually update event table using sample scripts
 - Add new column for “connectorID” to support event filtering
 - Manually update database triggers

Updated Event Table	
Name	Description
Xid	Unique ID value for assured once delivery
Event_id	Unique eventid which is primary key for the table
Object_key	String contains keys of the record in the event store that is retrieved (not NULL)
Object_name	Business graph name for WebSphere Process Server and business object name for other brokers
Object_Function	Operation corresponding to the event
Connector_ID	Filter by connector_ID value
Event_priority	Any valid positive integer values
Event_time	Date/time when event was generated
Event_status	In Progress, Success, Failure
Event_comment	Description

The event filtering feature is enabled for users in the Activation Specification once the adapter migration is completed. It requires to make changes to the event store to add another column for connectorID. This means backing up data and dropping the previous event table. Then manually update the event table using the sample script from adapter. This new script provides new column “connectorID” to support this event filtering. The adapter adds the corresponding column to the event query and ignores it if connectorID is not specified.

Migration

WebSphere adapters	WBIA → JCA	JCA → JCA
Flat Files	X	X
FTP	WBI JText → FTP	X
Email	X	X
JDBC	X	X
IBM i		X
Lotus Domino		
Oracle EBS	X	X
JD Edwards	X	X
SAP	WBI SAP QISS/AEP/ALE Interface → SAP	X
Siebel	X	X
PeopleSoft	X	X

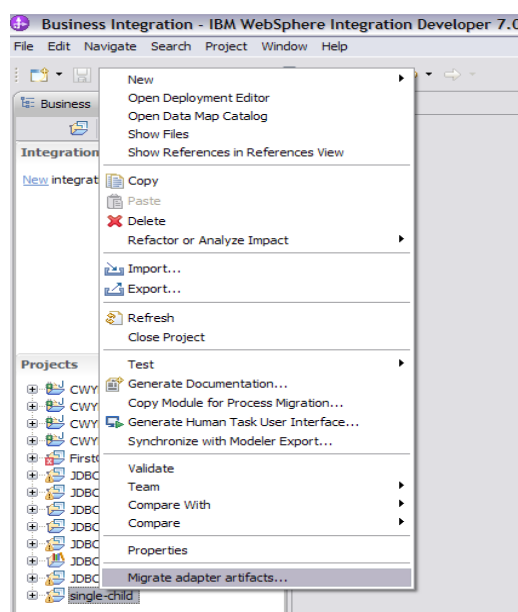
Here is the list of adapters that supports migration for both WBIA to JCA and JCA to JCA. Notice Domino adapters are not supported as they were just introduced as new adapters in V7.0.

Adapter migration wizard

This section provides the steps to run the adapter migration wizard

Adapter migration wizard (1 of 2)

- An Eclipse-based tool that drives the migration process
- Invoke from three locations
 - Through connector project pop-up menu while in the Java EE perspective.
 - Through the module project pop-up menu while in the Java EE perspective.
 - Using the Quick Fix action in the validation marker pop-up menu.
- Disable migration feature if can not be migrated
- Hidden migration feature if not supported by adapter migration



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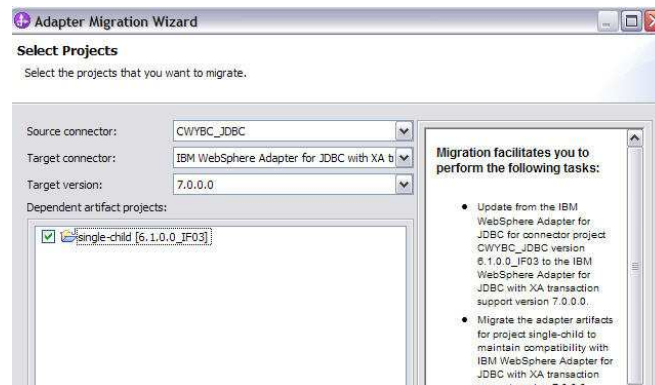
WebSphere Adapters V7.0 Migration

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The migration wizard is an Eclipse-based tool that drives the migration process. Its function is driven by the metadata specified at the adapter level and the APIs implemented in the extension plug-in.

The migration wizard can be invoked from three locations. The first invocation method is through connector project pop-up menu while in the business integration perspective. The second method is through the module project pop-up menu while in the business integration perspective. The third method of invocation is using the Quick Fix action in the validation marker pop-up menu. The migration feature is disabled if the project can not be migrated. Additionally, if the project is not supported by adapter migration, the migration feature will be hidden.

Adapter migration wizard (2 of 2)



- Launch migration wizard
 - Choose connector project with the target version
 - Dependent artifacts projects
 - “Current version” tag besides dependent projects if it already migrated
 - Warning about unsupported properties

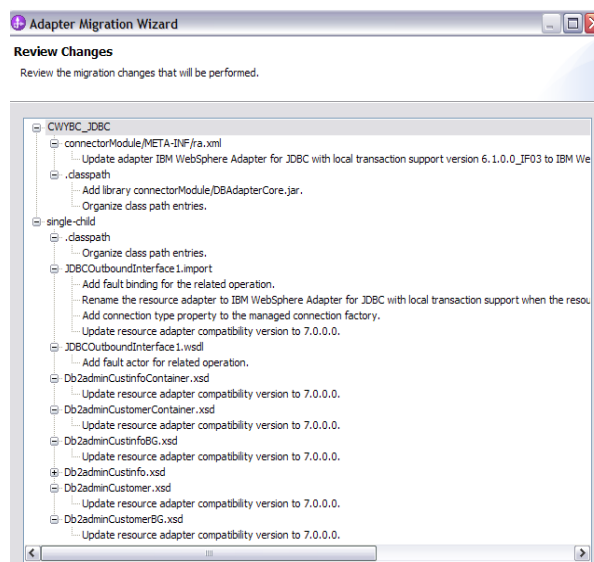
When migration wizard launches, the adapter migration wizard searches for the available update packages. Once an adapter update package is found, its target name and version are compared to the name and version of the adapter in the selected connector project.

Next, the migration wizard displays the source connector, target connector, target version and dependent project selection page exemplified in the slide. The connector project options include all the connector projects referenced in the module. If the wizard is invoked from the connector project itself, only that connector project is available. The dependent project should have the current module version listed next to it. By default, the dependent artifact projects are migrated with the connector project; however, you have the option to uncheck and thereby exclude the dependent projects from migration.

By clicking Next, the migration wizard displays a pop up screen warning about unsupported properties in version of the target adapter. These unsupported properties are removed during the migration. For more information about the properties that each adapter supports, refer to the adapter documentation.

Adapter migration wizard

- Preview page
 - Review migration changes
 - List all tasks to be executed



The last panel of the wizard is an optional preview, where you can see what tasks are to be performed. You can click Finish on the wizard, without going to this panel. This panel lists two tasks groups. First are the tasks processed on connector project, including RAR update, libraries and class path update. Second are the tasks run on dependent module project. Tasks that perform any migration changes might not be compatible with earlier versions, that is, clients of the application modules might break.

Upon wizard completion triggered by the Finish button, for each selected application module a set of migration tasks specified in the Adapter update package is performed. Selected modules' artifacts and application resources are migrated according to those tasks.

When rerun, the previously migrated connector project and dependent modules are marked and described as already migrated. The migrated modules cannot be selected again, and no tasks are assigned to a previously migrated module. If artifacts are inconsistent in version handling within a single module, this module is marked as such, is not selectable for migration, and does not have any associated tasks. Version inconsistencies are recorded in the workspace log, since this might be a symptom of project corruption.

Rollback migration

This section provides how migration rollbacks in case of migrating errors.

Rollback migration

- Ensure to rollback to the original state if any error occurs as part of the migration
- Steps for rollback migration
 - Projects are backed up in a temporary folder in workspace
 - Modified projects replace with back up projects
 - Migration fails to perform properly
 - User cancels the migration wizard during mid-execution
 - Temporary backup projects is deleted
 - Migration executes successfully

The objective of rollback migration feature is that the adapter migration wizard ensures that changes rolls back completely and the project contents reverts back to the original state if any error occurs as part of the migration. Before the execution of migration changes, all projects effected by migration are backed up in a temporary folder within the workspace. If a migration change fails to run properly, or user cancels the migration during the execution, the modified projects are replaced with the backed up projects. If the migration runs successfully, the temporary backup of the modified projects is deleted.

Summary

The next section will provide the summary and references.

Summary

- This presentation covered migration details in IBM WebSphere Adapters V7.0
 - WBIA → JCA Migration
 - JCA → JCA Migration
 - Described steps by steps in adapter migration wizard
 - Looked at rollback migration

You have been introduced to another enhanced WebSphere adapter migration infrastructure including fault binding enablement in V7.0. You have learned the steps involved in the migration wizard and the different migration tasks that are required for each migration infrastructure. At the end, you also learned the rollback migration feature which allows you to roll back to its original state in case of migrating errors.



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