



IBM Software Group

IBM WebSphere® Adapters V6.0.2

WebSphere Adapter V6.0.2 for Siebel Business Applications



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Converted to video June 18, 2015

This presentation will focus on the WebSphere Adapter for Siebel V6.0.2

Agenda

- Overview and architecture
- Installation
- Configuration properties
- Outbound operations
- Inbound operations
- Business objects
- Transaction and security
- Migration
- Summary and references

The agenda for this presentation is shown here.

Section

Overview and architecture

This section is an overview of the WebSphere Adapter for Siebel.

Siebel application overview

- Siebel application architecture is a layered structure containing
 - ▶ 1. User Interface Objects Layer
 - ▶ 2. Business Objects Layer
 - ▶ 3. Data objects Layer
- Business Object layer includes business services, business components, business objects and integration objects
- A Siebel business service is an entity in Siebel that encapsulates and simplifies the use of a set of functionality
- Adapter supports Business Objects/Components, Business Services and integration objects in this release
- The adapter uses the Java™
- APIs provided by the Siebel Java
- Data Bean to communicate with the Siebel Object Manager for data exchange



Siebel application architecture has three layers.

The User Interface Object layer deals with visual elements.

The second layer is the Business Objects layer. This includes the business services, business components, business objects and Siebel integration objects. A Siebel business service is an entity in Siebel that encapsulates and simplifies the use of a set of functionality

The third layer is the Data objects layer.

In this release, the WebSphere Siebel adapter supports business object components, business services and any integration objects through the business services.

To allow external applications to exchange data with the Siebel application, Siebel provides a set of interfaces known as Siebel Object Interfaces. The APIs, in the Siebel provided Siebel Java Data Bean jar file, handle the exchange of data by using the Siebel business objects and business components. The adapter uses the jar file to communicate with the Siebel Object Manager for data exchange.

Siebel business service

- A Siebel business service is an entity in Siebel that encapsulates and simplifies the use of a set of functionality
- A business service is much like an object in an object-oriented programming language.
- Siebel business services are not tied to specific objects, but rather operate on objects to achieve a particular goal
- Business service has properties and methods (with arguments) and maintains a state

More on the Siebel business service in this page.

Siebel business service is like an object in an OO programming language. It has a set of functions that can be invoked. Siebel business service is not tied to a specific object but operates on one or more objects to achieve a particular function.

Siebel business service (cont.)

- Siebel business services are based on following types of higher level classes:
 - ▶ CSSEAIDataSyncService – data synchronization services
 - ▶ CSSService – Any business service.
 - This is typically extended by other services
 - An example would be the CSSEAISiebelAdapter class which inherits from CSSService class and maps to the EAI Siebel Adapter business service.
 - ▶ CSSEAITEScriptService – data transformation services
 - ▶ CSSEAISiebelAdapter – EAI Siebel Adapter
- The adapter only supports business services that are of the above specified class types
- These business services includes generic business services such as the 'EAI Siebel Adapter', Applications Services Interfaces such as 'Siebel Contact' and other built-in or custom business services

Siebel business services are based on the four types of higher level classes shown on this page.

The CSSEAIDataSyncService is used for data synchronization services.

The CSSService represents any business service. Other services extend this class.

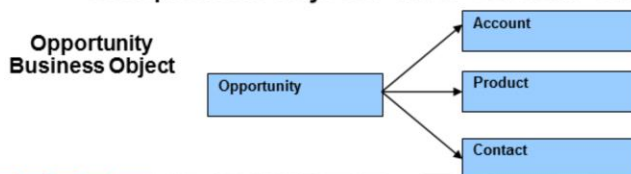
The CSSEAITEScriptService is used for data transformation services

The CSSEAISiebelAdapter is used by the "EAI Siebel Adapter" which is a generic business service in Siebel.

The adapter only supports business services that are of the above specified class types. Any service that does not fall into one of the four classes, is not supported by the adapter.

Siebel business objects and components

- Siebel business components are logical abstractions of one or more database tables
 - ▶ Defines structure, behavior and information related to a particular subject
- Business objects are customizable, object-oriented building blocks of Siebel applications.
 - ▶ Define the relationships between different business component objects and contain semantic information .



Siebel business components are logical abstractions of one or more database tables and define the structure and behavior related to a subject.

Business objects are customizable, object-oriented building blocks of Siebel applications. Business objects define the relationships between different business component objects and contain semantic information.

Siebel business object groups one or more business components into a logical unit of information

In the picture shown, opportunity business object consists of opportunity, contact, and product business components. The opportunity business component, which is the primary business component, dictates the information of the other business components in a parent-child relationship.

Section

Installation



This section talks about the installation and deployment of the WebSphere Adapter for Siebel. Note that this section is also covered in a separate presentation common for all WebSphere Adapters.

Prerequisite: Setup for event triggering

- Create an Event Siebel Business Component in Siebel EIS for the event store table
 - ▶ Schema and steps to create the Event Siebel Business Component are included in user documentation
- Add the event generation triggers to the Siebel business objects that need to be monitored
 - ▶ Creating, updating, or deleting records in the Siebel Business application is treated as an event
 - ▶ This will allow generation of the events for the component when the operation is performed
 - ▶ Siebel supports Visual Basic scripts and Siebel eScript embedded in the Siebel business component event handlers to populate the event store table
- Sample event business component and Siebel scripts is provided with the adapter

The setup in Siebel EIS is setting up the Custom event project needed to store the events within Siebel. There are 2 main tasks. First, the Custom Event project must be created in Siebel. This is where the generated events will be stored within Siebel. The adapter looks at this event project for new events or changing the status of existing events. Sample event project is provided in the samples directory. The schema of the custom event project must be the one provided in the user guide. The name of the custom event project can be changed, but the schema must be the one expected by the adapter. The event generated triggers must be inserted in the components whose events can be monitored by the adapter. Siebel supports Visual Basic scripts or Siebel eScripts. Sample triggers are provided by the Adapter. To Create the Event table in Siebel, you must be familiar with Siebel tools.

Importing the Adapter

- Import Siebel Adapter Resource Archive into WebSphere Integration Developer – this creates a J2EE connector RAR project in the workspace
- Add EIS external dependencies to the RAR project and add them to the Java Build path of the project
 - ▶ External dependencies are Siebel 7.7 and 7.8 are Siebel.jar and Siebel_enu.jar
 - ▶ External dependencies are Siebel 7.5 are SiebelJI_Common.jar, SiebelJI_enu.jar and SiebelJI.jar
 - ▶ Copy the dependent jar files in the following directory:
 - ▶ For WebSphere Process Server Test Server: <WPS_INSTALL>\lib directory
 - ▶ For WebSphere Integration Developer: add the to Resource Adapter project's Java Build Path

Import the RAR file into your workspace using WebSphere Integration Developer tool. This creates a J2EE connector project in your workspace.

Add EIS external dependencies, depending on the version of your Siebel application, to the java built path of the RAR project.

Section

Configuration properties

In the WebSphere Adapter common details presentation, all the common properties were covered. This section covers the Siebel specific attributes.

Managed connection factory properties (outbound)

Property	Description
User Name	User name to login to the Siebel EIS
Password	Password for the corresponding user name
Siebel Connect String	<p>Connection string needed to connect to Siebel EIS</p> <p>For Siebel 7.5 (uses default port 2320, hence no port # specified) Protocol://machinename/enterprisename/objectmanager/servername Example: siebel://mysiebel.ibm.com/siebel/SSEObjMgr_enu/sebldev1</p> <p>For Siebel 7.7 (uses port 2321 which is not a default): protocol://machinename:portnumber/enterprisename/objectmanager</p>
Language	Language to be used - Example: enu
resonateSupport	Specifies whether the adapter should use Attach/Detach calls on the SiebelDataBean. Default: True

Some of the specific Siebel Adapter custom properties are shown here. The Siebel connect string has its own format, as shown in the table with examples. Resonate Support is a feature exposed by the Siebel Application to allow for more efficient use of Siebel Connections. Instead of doing expensive logon and logoff operations on the connection, a Siebel Client can detach and attach a Siebel Java DataBean (connection). This is transparent, and happens when the application server does a clean up of the connection then later on attempts to re-establish a connection. If resonateSupport is set to true, then instead of doing a logon or logoff during this phase, the adapter will attach then detach.

Activation specification properties (for inbound)

Property	Description
User Name	User name to login to the Siebel EIS
Password	Password for the corresponding user name
Siebel Connection String	<p>Connection string needed to connect to Siebel EIS</p> <p>For Siebel 7.5 (uses default port 2320, hence no port # specified): Protocol://machinename/enterprisename/objectmanager/servername Example: siebel://mysiebel.ibm.com/siebel/SSEObjMgr_enu/sebldev1</p> <p>For Siebel 7.7 (uses port 2321 which is not a default): protocol://machinename:portnumber/enterprisename/objectmanager</p>
Siebel Repository	Name of the Siebel repository – Example: "Siebel Repository"
Language	Language to be used - Example: enu
Event Component Name	Specifies the name of the Siebel Component for the event table
resonateSupport	Specifies whether the adapter should use Attach/Detach calls on the SiebelDataBean. Default: True

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The properties for the inbound Activation Specification are shown in the table. They are same as the outbound except a new one called the Event Component Name, which specifies the name of the Siebel custom event component that has been created to store the events from the Siebel components.

Section

Outbound operations

This section covers the outbound operations.

Outbound – high level flow

- Adapter models Siebel function calls as Business Objects (BOs)
- SCA client passes the BO to the adapter through the JCA CCI Record object
 - ▶ BO is wrapped in the JCA CCI Record
- Adapter extracts the BO and determines if the BO represents a business service or a business component.
 - ▶ If it is a business service, the adapter converts the business object data to the appropriate Siebel function call.
 - ▶ If it is a business object, the resource adapter Creates/updates/deletes in the Siebel application based on operation specified in functionName

The high level flow of the outbound operations is specified on this page.

The adapter models the Siebel function call as Business Objects (BO). The SCA client wraps the BO inside the JCA CCI Record object, since the J2C specification does not support BO being passed as a parameter. The client creates an interaction specification which will specify the function name which needs to be a valid method of the business service. The business service is in the metadata of the incoming business object. In case of business components, the function name in interaction spec will contain one of the valid operations.

The adapter extracts the BO from the Record, and determines if the BO represents a business service or a business component. If the BO represents a service, the function name specified in the interaction specification is used as a business service method. If it is a business component, it will use it as an operation like create, update, or delete.

The Adapter uses the Siebel Java Data Bean JAR file to communicate with the Siebel Business services

Siebel business service: 'EAI Siebel adapter'

- It is a general purpose business service that allows reading and writing integration objects

EAI Siebel Adapter Method	Description
Synchronize	Makes the values in the application match those in the business object
Insert	Creates the integration object
Update	Updates the integration object, and synchronizes all children
Upsert	Performs synchronize, but no deletes are done.
Delete	Performs a delete of the integration object
Query	Retrieves the integrations objects that match the input business object
QueryPage	Performs a query but only returns a number of records.
Execute	Performs a combination of operations on the components of the integration object

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The table here lists the methods supported by the EAI Siebel Adapter. As indicated earlier, the EAI Siebel Adapter is a general purpose business service that allows the reading and writing of other Siebel integration objects.

Siebel application services interfaces

- Built-in business services that provide integration object specific services – Some examples are as follows:
 - ▶ Siebel Account – Integrates with the Account Interface integration object
 - ▶ Siebel Contact – Integrates with the Contact Interface integration object

Built-in Business Service Method	Description
QueryByExample	Retrieves the integration object based on non key values
QueryById	Retrieves the integration object based on the primary row id
InsertOrUpdate	Inserts or updates the integration object depending on if it already exists

The methods for the built-in business service are listed in the table. For the EAI Siebel Adapter general purpose business service, either the QueryByExample or QueryById method could be used to retrieve the specific Siebel integration object.

Siebel business object/component support

- Incoming business component will represent the primary business component of a business object.

Operation	Description
Create	'Create' operation will create the business component
Update	'Update' will update the Siebel application with the incoming object.
Retrieve	In order to see the values of the business component 'Retrieve' operation can be used.
RetrieveAll	'RetrieveAll' can retrieve multiple instances of the same business component and will populate it as the container BG and return it back.
Delete	'Delete' will delete the business component and its children from Siebel. By default it is a cascade delete in Siebel.
Exists	'Exists' operation will check for the existence of the incoming business objects in Siebel. Output business object 'ExistsResult' will be returned with the Boolean value populated.
ApplyChanges	'ApplyChanges' will update the business component based on the delta information

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The operations supported for Business objects and components are shown in this slide.

Incoming business component will represent the primary business component of a business object. It will be a hierarchical object if the business component has different child relationships defined. The adapter will support the operations shown in the above table

Section

Inbound operations and event manager

This section covers the inbound operations.

Inbound operations: High level flow

- Inbound operations are based on events being triggered when any record in the Siebel Business application is created, updated or deleted
- Event notification requires the creation of event in the Siebel database
 - ▶ “IBM Events” Siebel business component is the default table used to track events happening in the Siebel EIS – the component and table name can be customized, but not the schema.
 - ▶ Event component lists the type of event, the corresponding business graph and the status of the event
 - ▶ Triggers will need to be placed on the base Siebel business objects - Siebel supports Visual Basic scripts and Siebel eScript embedded in the Siebel Business Component event handlers to populate the event table

Inbound operations are based on events being triggered when a Siebel record or object is created, modified or deleted. The Siebel developer must create a custom Siebel business component to store the events that are being triggered as a result of the updates to the Siebel records. The schema for the custom Siebel business component cannot be changed. A sample custom Siebel business component, called, “IBM Events” is provided with the adapter.

Triggers must be inserted in the Siebel business object that is to be watched for events. Sample triggers are also provided. Siebel supports Visual Basic scripts and Siebel eScript for writing event triggers.

Inbound operations: High level flow (cont.)

- Adapter polls the Siebel event component for new events and fetches the events
 - ▶ “Once and only once” event delivery is supported through XA transactions using the Event Persistence database
- If the event corresponds to business component, adapter retrieves the business component and creates a business graph that will be sent to the endpoints
- If the event corresponds to business service, adapter retrieves the integration object and creates the business graph which is sent to the endpoint
- The endpoint can then look in the BO within the graph and start the logic to handle the event

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The adapter polls for the events looking in the custom Siebel business component that was created to store events within Siebel. The adapter uses its own event staging table and the custom Siebel business component for events to support “once and only once” event delivery. The details of the “Once and only once” event delivery are covered in the common adapter details presentation.

When a new event is detected by the adapter, based on the event status, the adapter retrieves it and stores it in its event persistence table.

If event corresponds to business component, the adapter retrieves the business component by making use of the retrieve operation and creates a business graph which is sent to the endpoint.

If event corresponds to business service, the adapter retrieves the integration object represented by the event in case of business service and creates a business graph that is published to the endpoint.

Event table schema

Fields	Description	Example
XID	This field replaces the EDT table	
Object Key	The unique identifier which identifies the business object row for which the event was created.	AccountId=1-20RT
Object Name	The business graph for which the event was detected.	EAIAccountInterfaceBG
Event Type	The type of the event	Create
Priority	Event priority	1
Status	Event Status. Initially set to READY_FOR_POLL.	0
Description	Any comment associated with the event – Not required	Account Interface Event
Event Id	Id of the event row.	
Event Timestamp	The time stamp for the event. Format MM/dd/yyyy HH:mm:ss	02/24/2007 11:37:56

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Listed on this page is the table schema for the custom Siebel business component that was created to store events within Siebel. These events are created by the triggers inserted in Siebel business object that need to be watched for events.

Section

Business objects

This section covers some details of Business objects.

Naming convention for business objects generated for business services

- The name for the business objects used for business services is a concatenation of several words:
 - ▶ Prefix - an optional prefix, which will be placed at the start of the business object name
 - ▶ Business service name – the business service for the business object. User can specify if they would like to ignore the business service name while the objects are being generated
 - ▶ Integration object – the underlying integration object for the Siebel message container business object
 - ▶ Integration component – the underlying integration component for the Siebel message container business object
 - ▶ Method name – the method that this business object was generated against

During the generation of the Business Objects for any services selected using the Enterprise Service wizard, the names of the Business Objects are based on the convention shown on this page. The generated Business Objects will have long names, since the name contains the Business Service name, integration object, integration component and method name.

Naming convention of business object generated for Siebel business objects

- The naming convention for the business objects includes the concatenation of several words:
 - ▶ Prefix - an optional prefix, which will be placed at the start of the business object name
 - ▶ Business object name – the Siebel business object name under which the business components are grouped
 - ▶ Business component name – the underlying integration object for the Siebel message container business object

During the generation of the Business Objects using the Enterprise Service wizard for the Business Objects and Business Component support, the names of the Business Objects are based on the convention shown on this page. It contains the prefix, Business object name, and business component name.

Section

Transaction and security

This section covers the transaction and security support.

Transaction and security

▪ Transaction

- ▶ Siebel application does not support local or XA transaction
- ▶ Hence this feature is not supported by the adapter

▪ Security

- ▶ For outbound and inbound, use the WebSphere Process Server J2C Authentication Alias to specify User id and password to connect to the Siebel application

Siebel application does not support any transaction, and hence there is no end to end transaction available from the adapter to and from the Siebel application.

On the security front, for the outbound and inbound requests, the J2C Authentication Alias within the WebSphere Process Server can be used. The authentication alias name can be specified in WebSphere Integration Developer. The administrator must have that J2C Authentication Alias defined within the Process Server with its user id and the password to authenticate the Siebel application. Pre-defined J2C Authentication Alias “**SCA_Auth_Alias**” can be used for authentication.

Section

Migration

This section covers the migration process to WebSphere Adapter for Siebel V6.0.2

Migration

Upgrade procedures

- ▶ Previous version of the adapter RAR should be replaced with the current version of the adapter. This can be done by importing the deployed .ear into WebSphere Integration Developer and remove the old adapter .rar file and import the latest adapter RAR.

Migration procedures

- ▶ In the imported .ear look for the inbound service description and add:


```
<assuredOnceDelivery>true</assuredOnceDelivery>
```
- ▶ To enable event filtering add these two properties. 'filterFutureEvents' by default is set to false and it should be added but you can choose not to add 'eventTypeFilter' property if event type filtering is not required.


```
<filterFutureEvents>false</filterFutureEvents>
<eventTypeFilter>xyz</eventTypeFilter>
```
- ▶ Export the application as an EAR by selecting File -> export -> Ear file, give the default name to the EAR and deploy the EAR onto WebSphere Process Server.
- ▶ Event store in Siebel application should be updated with an additional field 'XID'

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To upgrade your 6.0 version of the adapter to version 6.0.2, the previous version of the adapter RAR should be replaced with the current version of the adapter. This can be done by importing the deployed .ear into WebSphere Integration Developer, removing the old adapter RAR file, and importing the latest adapter RAR.

In the imported .ear look for the inbound service description and add the assuredOnceDelivery property as shown here.

To enable event filtering add the 'filterFutureEvents' and eventTypeFilter .

The filterFutureEvents property is set to false by default, and it should be added, but you can choose not to add 'eventTypeFilter' property if event type filtering is not required.

These properties cannot be specified with no values filled in, SCA will throw an error when deploying the .ear

Once all these changes are made, export the application as an EAR by selecting File -> export -> Ear file. Give the default name to the EAR and deploy the EAR onto the WebSphere Process Server runtime.

The event store in the Siebel application should be updated with an additional field 'XID' . It will be empty in the beginning and will be filled by the adapter when processing the events. An old version of the adapter can work with the new event store because it will ignore the newly added field. However, the V6.0.2 adapter cannot work with the old version of the eventstore which does not have the XID field.

Section

Summary and references

This section covers the summary and references.

Summary and References

■ Summary

- ▶ Discussed Siebel Adapter in details covering the architecture, installation, configuration properties, and operations
- ▶ Looked at supported transaction and security
- ▶ Provided steps in migration

■ References

- ▶ Information Center
- ▶ User Guide



In summary, this presentation covered the details of WebSphere Adapter for Siebel including the architecture, installation, configuration properties and its inbound and outbound operations. The presentation has also provided information on transaction and security. Last but not least, it covered steps in migrating from the previous version. More information on WebSphere Adapter for PeopleSoft can be found in the User Guide and the Information Center for the Adapter.

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