

Coherence Adapter Connection to Local Cluster

The Coherence Adapter provides a default connection factory to connect to an out-of-box Coherence cache and also a cache called `adapter-local`.

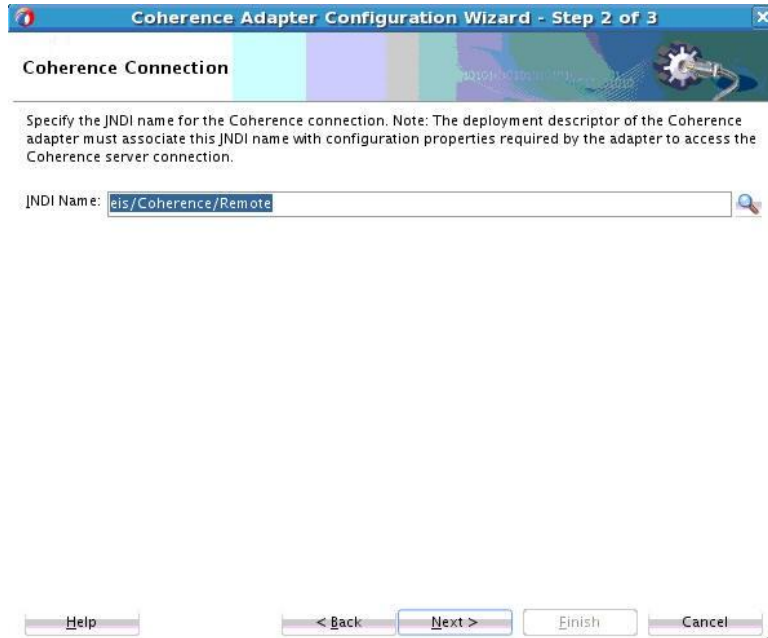
Coherence adapter employs transactions for access to local caches (local coherence cluster). So the supported scheme for local caches is `<transactional-scheme>`

Configuring the Coherence Adapter

Learn how to configure the Coherence Adapter using the Coherence Adapter Configuration Wizard.

1. In the **Application Navigator** of JDeveloper, select **New Application**. The **Create Generic Application - Name your application** page is displayed.
2. Drag and drop the Coherence Adapter from the Components window of Oracle JDeveloper. The **Coherence Adapter Welcome Screen** appears. Click **Next**.
3. On the Coherence Connection screen, specify a JNDI name for the Coherence Connection. Select **Next**.

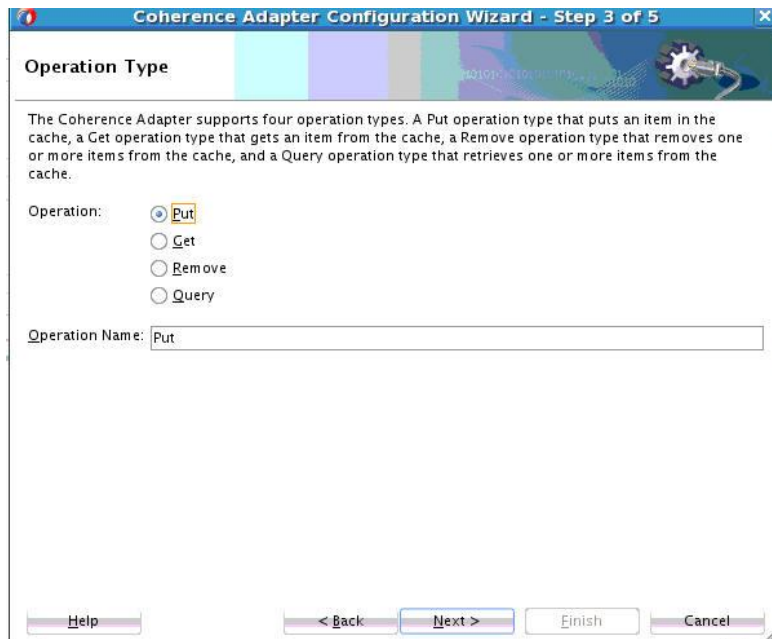
Figure 14-1 The Coherence Adapter Configuration Wizard Service Name Screen



4. On the **Operation Type** Page, specify a valid operation against the Coherence cache that you want to perform. When you import an existing WSDL, the operation name is pre-populated. Operations are **Put (Put item in cache)**, **Get (Get item from cache)**, **Remove (Remove item from cache)**

or **Query (Query item from cache)**. In the screen example below, **Put** is selected.

Figure 14-2 Coherence Adapter Configuration Wizard Operation Type Page with Put Selected



5. If you selected Put, the **Put Page** appears. This page captures the configuration parameters for the Put operation. On this screen, you indicate the following fields:
 - **Cache Type** – This is a drop-down combo-box with values – XML, POJO. Use the value that corresponds to the type of item you want to put into the cache.
 - **Cache Name** – Enter a cache name in this text field. This is the name that uniquely identifies the Coherence cache.
 - **Key** – Either enter a key in the text field, or check the auto-generate checkbox to have the key generated. If checked, the key is automatically generated by the Coherence runtime. The key auto-generate process sets the Key Type to String.
 - **Key Type** – Key Type and Key are disabled, if you choose to enter a filter. It is enabled if you choose to enter a Key Type and Key. Here Key Type combo-box with list of Java simple types: string, integer, long, float, double.
 - **Auto-generate Key** – Check this box if you want the Coherence Adapter Configuration Wizard to generate a key for you.
 - **Time to Live** – Choose Default, Always, or Custom. If you choose Custom, you can specify a value in milliseconds. This value indicates how long an entry should remain in the Coherence cache. The default is that the message never expires. The Time To Live property is applicable

more for Remote Caches than for Local caches. For a Local cache, the entry always remains in the cache until you remove it or the SOA server terminates.

Figure 14-3 The Coherence Adapter Configuration Wizard Configure Put Operation Page

Coherence Adapter Configuration Wizard - Step 4 of 5

Configure Put Operation

Enter configuration parameters for putting an item in the coherence cache.

Cache Type: XML

Cache Name:

☒ Auto-generate key Key Type: string

Time To Live: Default 0 milliseconds

Help < Back Next > Finish Cancel

6. If you had specified the **Get item from cache** operation on the Coherence Adapter Operation Type page, the Configure Get Operation screen appears:

Figure 14-4 The Coherence Adapter Configure Get Operation Page

Coherence Adapter Configuration Wizard - Step 4 of 5

Configure Get Operation

Enter configuration parameters to retrieve an item from the Coherence cache.

Cache Type: XML

Cache Name:

Key Type: string

Key:

Help < Back Next > Finish Cancel

Fill in the following fields to retrieve items from cache:

- **Cache Type** – This is a drop-down combo-box with values – XML, POJO. Choose the value that corresponds to the type of entry you want to retrieve.
 - **Cache Name** – Enter a cache name from where the item is to be retrieved.
 - **Key Type** – This field is always enabled for a Get operation.
 - **Key** – Enter the key of the cache entry in this text field.
7. If you had chosen the **Remove from cache** option on the Operation Type screen, the Remove Item from Cache screen would appear:

Figure 14-5 The Coherence Adapter Configuration Configure Remove Operation Screen

Coherence Adapter Configuration Wizard - Step 4 of 5

Configure Remove Operation

Enter configuration parameters for putting an item in the coherence cache.

Cache Name:

Key Type: Key:

Filter:

Help < Back Next > Finish Cancel

Enter the configuration parameters to remove an item from Cache, and click Next:

- **Cache Name** –The name of the cache item.
- **Key Type** – This is enabled when performing a Remove operation.
- **Key** – The key for the cache item.
- **Filter** – A string filter for the cache name.You can specify a key or a filter but you cannot specify both.

Note:

When using a filter for a Remove operation, the Coherence Adapter does not report the count of entries affected by the remove operation, regardless of whether the remove operation is successful.

When using a key to remove a specific entry, the Coherence Adapter does report the count, which is always 1 if a Coherence Remove operation is successful.

Querying Items in the Coherence Cache

Learn how to query items in the Coherence cache.

1. To do, select **Query** from the Operations Screen. The Coherence Adapter Configure Query Operation screen appears.

Figure 14-6 The Coherence Adapter Configure Query Operation Screen

The screenshot shows a window titled "Coherence Adapter Configuration Wizard - Step 4 of 5". The main heading is "Configure Query Operation". Below this, it says "Enter configuration parameters to query items from the Coherence cache." The form contains the following fields and controls:

- Cache Type:** A dropdown menu with "XML" selected.
- Cache Name:** A text input field.
- Filter:** A text input field.
- Item Count:** A text input field.
- Return Keys ONLY:** An unchecked checkbox.
- Key Type:** A dropdown menu with "string" selected.
- Index Options:** A section containing:
 - Index Name:** A text input field.
 - Sorted Index:** An unchecked checkbox.

At the bottom of the window, there are five buttons: "Help", "< Back", "Next >", "Finish", and "Cancel".

2. On the Configure Query Operation screen fill in the following:
 - **Cache Type** - Select XML or POJO from the dropdown list.
 - **Cache Name** -The name of the cache.
 - **Filter** - You can enter a Coherence Query Language filter expression manually. If you do not specify a Filter, the Coherence Adapter Configuration Wizard warns that all items are to be returned.
 - **Item Count** - An integer to specify the limit to the item count returned from the query.
 - **Index Name** - (Optional) A index name to be created in the cache. Select the Sorted checkbox to create a sorted index.

- **Return Keys ONLY** - Check the box and supply a return key type. If this box is checked, only the keys will be returned whose values match the entries that are returned from the query.

Index and Ordered field key types are only valid for the POJO Cache Type. For the XML Cache Type, you can only use key() token in the filter expression.

This means that when you specify a filter expression you can only use the special token key(), which means the cache object key. For example, you could use either of these keys:

```
key() = 1234
```

```
key() = 5678
```

If you are using the POJO cache type, you can create a filter expression that uses both tokens from the POJO object as well as the special built-in key() token.

Defining Messages for Put, Get and Query Operations if XML is Chosen

Learn how to define messages for Put, Get and Query Operations if you have chosen XML as the cache type.

If you have chosen XML as the cache type on any of the Put, Get or Query operations, the Specify Schema Page appears. On this page, you select a schema for the Coherence cache object. See [Figure 14-7](#).

Figure 14-7 Coherence Adapter Configuration Wizard Messages (Specify Schema) Screen

Coherence Adapter Configuration Wizard - Step 5 of 6

Specify Schema

Specify a response schema for query operation that supports a collection of cache objects. For example, if payload schema is specified as `<Book>..</Book>`, the collection schema may be specified as `<BookCollection><Book>..</Book></BookCollection>`. Specify the Schema File Location and select the Schema Element that defines the message. Use the Browse button to find an existing schema definition.

Message Schema

URL

Schema Element

Help < Back Next > Finish Cancel

1. Specify the Schema File Location in the **URL** field and select the Schema element that defines the elements in the incoming files. Use the Browse button to find an existing schema definition.
2. Some considerations that are applicable to your choices at this point:
 - For a Put operation, a request message is generated that corresponds to schema generated for the value type specified, or to a schema you supplied on the Schema Page. A response message is with the ReturnIdentifier of the cache entry created in the Coherence server.
 - For Get operation, the response message points to the schema for the value type, or the schema you supplied on the Schema Page. An empty request message is created.
 - For Query operation, if the filter expression has bind variables, a request message containing elements for these bind variables will be generated. The response message will be the schema generated for the value type, or the schema you supplied on the Schema Page.

Defining Messages for Put, Get and Query Operations if Pojo is Chosen

If you choose POJO as the cache type for a Get, Put, or Query operation, the **Specify Value Type Class Screen** appears.

Figure 14-8 Coherence Adapter Configuration Wizard Value Type Class Screen

The screenshot shows a window titled "Coherence Adapter Configuration Wizard - Step 5 of 6". The main heading is "Specify Value Type Class". Below this, a text box explains: "Define value type class for the POJO cache item type. Optionally, specify the metadata mapping file for the schema, and the POJO class will be determined from the mapping file. If no metadata mapping file is available, check the auto-generate option to automatically generate the mapping." There are two input fields: "Value Type Class:" and "Mapping File:", each with a browse button (magnifying glass icon). A checkbox labeled "Auto-generate Metadata Mapping" is checked. At the bottom, there are four buttons: "Help", "< Back", "Next >", and "Finish", followed by a "Cancel" button.

To define messages when you have specified POJO as the cache type:

1. Enter the value type for the POJO cache type for the PUT operation in the **Value Type** box. You can use the browser to find a value type.
2. Optionally, enter the metadata mapping file for the schema in the **Metadata Mapping** field.

The Metadata mapping file helps in POJO to XML and XML to POJO conversion. The mapping file you selected is copied to the JDeveloper project. You can use the browser to find the metadata mapping file. The mapping file is stored in the JDeveloper project. (When you provide XML, the Adapter converts the XML to an object before adding it to the cache. The reverse happens when a you query an object in the cache. The Adapter converts the object stored in cache to XML and passes it along as output to you.)

If a mapping file is specified, the Coherence Adapter automatically generates the schema.

If you do not specify a metadata file, the Coherence Adapter Configuration wizard automatically generates the mapping file by introspecting the value type class.

Note:

: For a Query Operation type, if you select Return Keys, the Messages page is not displayed for either XML or POJO Cache Types.