REMOVE-Upgrading from WSO2 EI 6.0.0

This page walks you through the process of upgrading to WSO2 Enterprise Integrator (WSO2 EI) 6.1.0 from WSO2 EI 6.0.0. This will cover the steps for upgrading all of the following profiles in WSO2 EI:

- **Integration** profile
- **Message Broker** profile
- **Business Process** profile
- **Analytics** profile

> For information on the default ports in WSO2 EI profiles, see Default ports of WSO2 EI.

See the following topics for details:

Preparing to upgrade

The following prerequisites must be completed before upgrading:

- Create a backup of the databases in your WSO2 EI 6.0.0 instance.
- Copy the `<EI_6.0.0_HOME>` directory to back up the product configurations.
- Download WSO2 EI 6.1.0 from http://wso2.com/integration.

> The downtime is limited to the time taken for switching databases in the production environment.

Upgrading the databases

In WSO2 EI 6.0.0, you will have Carbon databases as well as separate profile-specific databases for the the **Message Broker** profile, **Business Process** Profile and the **Analytics** profile. All of these database instances, which were used for WSO2 EI 6.0.0 (except the Message Broker-specific database) can be used with WSO2 EI 6.0.0 without any changes.Therefore, you can simply restore the backup of these databases to use with WSO2 EI 6.1.0.

The Message Broker profile of WSO2 EI 6.1.0 comes with several changes to the broker-specific database, and therefore you must upgrade this database as explained below.

Upgrading the broker-specifc database

We are providing a simple tool that you can easily download and run to carry out this upgrade. Follow the steps given below.

1. Disconnect all the subscribers and publishers for the Message Broker profile of WSO2 EI 6.0.0.
2. Shut down the server.
3. Run the migration script to update the database:

   a. Open a terminal and navigate to the `<EI_HOME>/wso2/broker/dbscripts/mb-store/migration-3.1.0_to_3.2.0` directory, which contains scripts for each database type.
   b. Execute the script relevant to your database type. For example, if you have a MySQL database, execute the following command:
      - On Windows: `mysql-mb.sql`
      - On Linux: `sh mysql-mb.sql`
4. Download and run the migration tool:
   a. Download the migration tool.
   b. Unzip the `org.wso2.mb.migration.tool.zip` file. The directory structure of the unzipped folder is as follows:

```
TOOL_HOME
|-- lib <folder>
|-- config.properties <file>
|-- tool.sh <file>
|-- README.txt <file>
|-- org.wso2.carbon.mb.migration.tool.jar
```

5. Download the relevant database connector and copy it to the `lib` directory in the above folder structure. For example, if you are upgrading your MySQL databases, you can download the MySQL connector JAR from http://dev.mysql.com/downloads/connector/j/5.1.html and copy it to the `lib` directory.
6. Open the `config.properties` file from the folder structure shown above and update the database connection details shown below.

```
#Configurations for the database
dburl=
driverclassname=
dbuser=
dbpassword=
```

   The parameters in the above file are as follows:

   - **dburl**: The URL for your broker-specific database. For example, `jdbc:mysql://localhost/wso2_mb`
   - **driverclassname**:The database driver class. For example, `com.mysql.jdbc.Driver` for MySQL.
   - **dbuser**: The user name for connecting to the database.
   - **dbpassword**: The password for connecting to the database.
7. Run the migration tool:
   a. If you are on a Linux environment, open a command prompt and execute the following command: `tool.sh`.
   b. If you are on a non-Linux environment, execute the `org.wso2.carbon.mb.migration.tool.jar` manually.

The database is now upgraded with the changes relevant to the Message Broker profile of WSO2 EI 6.1.0.

Migrating the configurations

⚠ Configurations should not be copied directly between servers.

Migrating configurations of the Integration profile

Follow the steps given below:

1. Copy the database connector JAR files stored in the `<EI_HOME>/lib` directory of WSO2 EI 6.0.0 to WSO2 EI 6.1.0.

2. Copy the keystores and truststores used in the Integration profile of WSO2 EI 6.0.0 from the `<EI_HOME>/repository/resources/security` directory of WSO2 EI 6.0.0 to the same directory in WSO2 EI 6.1.0.
3. Update the configuration files:
    a. Update the configuration files with information of the migrated keystores and truststores. See Configuring Keystores in WSO2 products for more information.
    b. Go to the `<EI_HOME>/conf/datasources` directory and update the Carbon datasource configuration in the `master-datasources.xml` file with the details of the Carbon database.
    c. Go to the `<EI_HOME>/conf` directory and update the datasource references in the `user-mgt.xml` and `registry.xml` files to match the updated configurations in the `master-datasources.xml` file.
4. If you have secondary user stores created for the Integration profile of WSO2 EI 6.0.0, you need to copy the 'userstore' folder in the `<EI_6.0.0_HOME>/repository/deployment/server/` directory to the same directory in WSO2 EI 6.1.0.
5. Check for any other configurations that were done for WSO2 EI 6.0.0 based on your solution, and update the configurations in WSO2 EI 6.1.0 accordingly. For example, configurations related to external user stores, caching, mounting, transports, etc.
6. If there are any third-party libraries used with WSO2 EI 6.0.0 that you want to migrate, copy them from WSO2 EI 6.0.0 to WSO2 EI 6.1.0:
    - If you have used JMS libraries, JDBC libraries, etc., copy the contents from the `<EI_HOME>/lib` directory.
    - If you have used OSGi bundles such as SVN kit etc., copy the contents from the `<EI_HOME>/dropins` directory.

Migrating configurations of the Message Broker profile

Follow the steps below:

1. Copy the database connector JAR files stored in the `<EI_HOME>/lib` directory of WSO2 EI 6.0.0 to WSO2 EI 6.1.0.
2. Copy the keystores and truststores used in the Message Broker profile of WSO2 EI 6.0.0 from the `<EI_HOME>/wso2/broker/repository/resources/security` directory of WSO2 EI 6.0.0 to the same directory in WSO2 EI 6.1.0.
3. Update the configuration files.
    a. Update the configuration files with information of the migrated keystores and truststores. See Configuring Keystores in WSO2 products for more information.
    b. Go to the `<EI_HOME>/wso2/broker/conf/datasources` directory and update the Carbon datasource configuration in the `master-datasources.xml` file.

    > Note that you need to update the datasource details for the Carbon database as well as the broker-specific database in the `master-datasources.xml` file.

    c. Go to the `<EI_HOME>/wso2/broker/conf` directory and update the datasource references in the `user-mgt.xml` and `registry.xml` files to match the updated configurations in the `master-datasources.xml` file.
    d. Check for any further configurations that were done for the Message Broker profile in WSO2 EI 6.0.0 based on your solution and update the following configuration files in EI 6.1.0 accordingly:
        - `broker.xml`
        - `metrics.xml`
        - `metrics-properties.xml`
        - `messaging-event-broker.xml`
4. If you have secondary user stores created for the Message Broker profile of WSO2 EI 6.0.0, you need to copy the 'userstore' folder in the `<EI_6.0.0_HOME>/wso2/broker/repository/deployment/server/` directory to the same directory in WSO2 EI 6.1.0.
5. Check for any other configurations that were done for the Message Broker profile of WSO2 EI 6.0.0 based on your solution and update the configurations in WSO2 EI 6.1.0 accordingly. For example, configurations related to external user stores, caching, mounting, transports etc.

Migrating configurations of the Business Process profile

Follow the steps below:

1. Copy the database connector JAR files stored in the `<EI_HOME>/lib` directory of WSO2 EI 6.0.0 to WSO2 EI 6.1.0. For example, the JAR for the Oracle database (`ojdbc7.jar`) can be copied.
2. Copy the keystores and truststores used in the Business Process profile of WSO2 EI 6.0.0 from the `<EI_HOME>/wso2/business-process/repository/resources/security` directory of WSO2 EI 6.0.0 to the same directory in WSO2 EI 6.1.0.
3. Update the configuration files.
    a. Update the configuration files with information of the migrated keystores and truststores. See Configuring Keystores in WSO2 products for more information.
    b. Go to the `<EI_HOME>/wso2/business-process/conf/datasources` directory and update the Carbon datasource configuration in the `master-datasources.xml` file with the details of the Carbon database.
    c. Go to the `<EI_HOME>/wso2/business-process/conf` directory and update the datasource references in the `user--mgt.xml` and `registry.xml` files to match the updated configurations in the `master--datasources.xml` file.
    d. Go to the `<EI_HOME>/wso2/business-process/conf/datasources` directory and update the `activiti-datasources.xml` file with details of the datasource connection to the BPMN database.
    e. Go to the `<EI_HOME>/wso2/business-process/conf/datasources` directory and update the `bps-datasources.xml` file with details of the datasource connection to the BPEL database.
    f. Open the `<EI_HOME>/wso2/business-process/conf/humantask.xml` file and change `GenerateDdl` to `false`. You can see the deployed humantask packages with the version in the console. A migration success message is printed once the migration completes successfully.

    ```
    <GenerateDdl>false</GenerateDdl>
    ```

    g. Check for any further configurations that were done for the Business Process profile of WSO2 EI 6.0.0 based on your solution and update the following configuration files in EI 6.1.0 accordingly:
        - `humantask.xml`
        - `axis2.xml`
        - `bps.xml`
        - `Activiti.xml`
        - `Tenant-mgt.xml`
        - `b4p-coordination-config.xml`
        - `process-cleanup.properties`
4. If you have secondary user stores created for the Business Process profile of WSO2 EI 6.0.0, you need to copy the 'userstore' folder in the `<EI_6.0.0_HOME>/wso2/business-process/repository/deployment/server/` directory to the same directory in WSO2 EI 6.1.0.
5. Check for any other configurations that were done for the Business Process profile of WSO2 EI 6.0.0 based on your solution and update the configurations in WSO2 EI 6.1.0 accordingly. For example, configurations related to external user stores, caching, mounting, transports etc.

Migrating configurations of the Analytics profile

Follow the steps given below.

1. Copy the database connector JAR files stored in the `<EI_HOME>/lib` directory of WSO2 EI 6.0.0 to WSO2 EI 6.1.0.
2. Copy the keystores and truststores used in the Analytics profile of WSO2 EI 6.0.0 from the `<EI_HOME>/wso2/analytics/repository/resources/security` directory of WSO2 EI 6.0.0 to the same directory in WSO2 EI 6.1.0.
3. Update the configuration files.
    a. Update the configuration files with information of the migrated keystores and truststores. See Configuring Keystores in WSO2 products for more information.
    b. Go to the `<EI_HOME>/wso2/analytics/conf/datasources` directory and update the Carbon datasource configuration in the `master-datasources.xml` file with the details of the Carbon database.

c. Go to the <EI_HOME>/wso2/analytics/conf/datasources directory and update the datasource configuration in the analytics-datasources.xml file with the details of the Analytics-specific databases.
d. Go to the <EI_HOME>/wso2/analytics/conf directory and update the datasource references in the user-mgt.xml and registry.xml files to match the updated configurations in the master-datasources.xml file.
e. Go to the <EI_HOME>/wso2/analytics/conf/analytics/ directory and update the rdbms-config.xml file according to the configurations in the same file of your previous Analytics installation.
f. Go to the <EI_HOME>/wso2/analytics/conf/data-bridge directory in WSO2 EI 6.1.0 and update the configuration files according to the configurations in the previous installation.
g. Go to the <EI_HOME>/wso2/analytics/conf directory and update the event-processor.xml file according to the configurations in the previous installation.

> If you enable the HA mode for the Anlytics profile by setting the <mode name="HA" enable="true"> property in the event-processor.xml file, state persistence is enabled by default. If there is no real-time use case that requires any state information after starting the cluster, you should disable event persistence by setting the persistence attributeto false in the same file as shown below.
>
> ```
> <persistence enable="false">
>     <persistenceIntervalInMinutes>15</persistenceIntervalInMinutes>
>     <persisterSchedulerPoolSize>10</persisterSchedulerPoolSize>
>     <persister class="org.wso2.carbon.event.processor.core.internal.
> persistence.FileSystemPersistenceStore">
>         <property key="persistenceLocation">cep_persistence<
> /property>
>     </persister>
> </persistence>
> ```

4. If you have secondary user stores created for the Analytics profile of WSO2 EI 6.0.0, you need to copy the 'userstore' folder in the <EI_6.0.0_HOME>/wso2/analytics/repository/deployment/server/ directory to the same directory in WSO2 EI 6.1.0.
5. Check for any other configurations that were done for the Analytics profile of WSO2 EI 6.0.0 based on your solution and update the configurations in WSO2 EI 6.1.0 accordingly. For example, configurations related to external user stores, caching, mounting, transports etc.

Migrating artifacts

Follow the steps given below to migrate the artifacts related to the separate profiles in WSO2 EI.

Migrating artifacts of the Integration profile

You should manually deploy the Composite Application Archive (CAR) files that you have in WSO2 EI 6.0.0 to WSO2 EI 6.1.0. If you have a mediator packed in a CAR, all the artifacts using that mediator should also be included in the same CAR. See Deploying Composite Applications in the Server in the WSO2 Admin Guide for further details.

- To migrate deployment artifacts including message flow configurations, copy the required Synapse artifacts from the <EI_HOME>/repository/deployment/server/synapse-configs/default directory of WSO2 EI 6.0.0 to 6.1.0.
- To migrate any connector artifacts, copy the JARs from the <EI_HOME>/repository/deployment/server/synapse-configs/default/synapse-libs and <EI_HOME/repository/deployment/server/synapse-configs/default/imports directories in WSO2 EI 6.0.0 to the same directories in WSO2 EI 6.1.0.

- To migrate the data service artifats, copy the `<EI_HOME>/repository/deployment/server/dataservices` directory of WSO2 EI 6.0.0 to WSO2 EI 6.1.0.
- If you have custom artifacts created in the `<EI_HOME>/repository/deployment/server/` directory of WSO2 EI 6.0.0, copy them to the same directory in WSO2 EI 6.1.0.

Migrating artifacts of the Business Process profile

Follow the steps given below:

- Copy the BPEL .zip packages in the `<EI_HOME>/wso2/business-process/repository/deployment/server/bpel` directory of WSO2 EI 6.0.0 to 6.1.0.
- Copy the BPMN .bar packages in the `<EI_HOME>/wso2/business-process/repository/deployment/server/bpmn` directory of WSO2 EI 6.0.0 to 6.1.0.
- Copy the humantask .zip packages in the `<EI_HOME>/wso2/business-process/repository/deployment/server/humantasks` directory of WSO2 EI 6.0.0 to 6.1.0.
- If you have custom artifacts created in the `<EI_HOME>/wso2/business-process/repository/deployment/server/` directory of WSO2 EI 6.0.0, copy them to the same directory in WSO2 EI 6.1.0.

Migrating tenant artifacts

If multitenancy is used, copy the tenant artifacts from WSO2 EI 6.0.0 to WSO2 EI 6.1.0 as follows:

- **Integration** profile: Copy the `<EI_HOME>/repository/tenants` directory of WSO2 EI 6.0.0 to WSO2 EI 6.1.0.
- **Message Broker** profile: Copy the `<EI_HOME>/wso2/broker/repository/tenants` directory of WSO2 EI 6.0.0 to WSO2 EI 6.1.0.
- **Business Process** profile: Copy the `<EI_HOME>/wso2/business-process/repository/tenants` directory of WSO2 EI 6.0.0 to WSO2 EI 6.1.0.
- **Analytics** profile: Copy the `<EI_HOME>/wso2/analytics/repository/tenants` directory of WSO2 EI 6.0.0 to WSO2 EI 6.1.0.

Starting the profiles

You can now start the WSO2 EI 6.1.0 product. See Running the Product for instructions on starting each of the profiles in the product.

Note the following when you send **XML payloads to a REST resource** in the **Integration** profile of WSO2 EI 6.1.0:

If you are sending XML request payloads to a data service REST resource, the payload must be in a specific format for different types of HTTP methods. When you send an HTTP POST request, the format of the JSON object name should be "_post$RESOURCE_NAME" or "_post$RESOURCE_PATH_$RESOURCE_NAME". When you send an HTTP PUT request, the format of the XML object name should be "_put$RESOURCE_NAME" or "_put$RESOURCE_PATH_$RESOURCE_NAME". The child name/values of the child fields should be the names and values of the input parameters in the target query.

See the tutorial on exposing data as a REST resource for more information.