Moving Backend and Log Databases to External Database

DOCUMENT INFORMATION

Adeptia Suite
Moving Backend and Log Databases to External Database
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Adeptia Support Information

For support queries, please contact us at support@adeptia.com.

Access the Adeptia Web site at the following URL:

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PREFACE

This document helps you to configure Adeptia Suite's Backend and Log Database on the following databases:

- SQL
- MySQL
- Oracle Server

Pre-requisites

- Install Adeptia Suite on your machine.
- Install an External Backend and Log Database from the following:
  - SQL
  - MySQL
  - Oracle

Target Audience

This document is intended for all users of Adeptia Suite, who needs to move Adeptia Suite's Backend and Log on some external database.

Other resource materials

The following other resource materials are available:

Title	Description
Installation Guide	This guide is intended for developers. They can use these details to perform all the design features of Adeptia Suite.
Business User Guide	This guide is intended for business users. They can use this guide to perform all the functions of Adeptia Suite.
Admin Guide	This document provides a detailed description of the Administrative features of Adeptia Suite. It guides you to seamlessly manage the functioning, design and integration of business processes using these administrative features.
Developer Guide	This document covers a detailed description of all activities and services of Adeptia Suite that are available to a developer. It acts as a guideline to use these services seamlessly and use them in a design

	environment using Adeptia Suite.
Migration Utility Guide	This document covers the details about how you can import and export your objects and their data while updating or moving objects of your Adeptia Suite's environment.

HOW IS THIS GUIDE ORGANIZED?

This guide is organized into the following sections:

Section	Description
Preface	This section covers the information related with the introduction of this document.
Moving Adeptia Suite's Backend Database to External Database	This section covers the information to configure and move your default backend database to an external database.
Moving Adeptia Suite's Log Database to External Database	This section covers the information to configure and move your default log database to an external database.

CONVENTIONS

The following tables list the various conventions used in Adeptia documentation. We follow these conventions to help you quickly and easily identify particular elements, processes, and names that occur frequently in documents.

Typographical conventions

This guide uses the following typographical conventions:

Convention	Description
Bold text	Indicates one of the following: ▪ Screen element ▪ New terminology ▪ A file or folder name ▪ A control in an application's user interface ▪ A registry key ▪ Important information
Italic text	Indicates a reference or the title of a publication.

Convention	Description
`Monospaced text`	Indicates code examples or system messages.
`Monospaced bold text`	Indicates system commands that you enter.
Hyperlink	Indicates an Internet link to target material.

Graphical conventions

This guide uses the following graphical conventions:

Convention	Description
	Indicates additional information that may be of interest to the reader.

CONTACTS/REPORTING PROBLEMS

These sections present contact information for a variety of situations.

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MOVING ADEPTIA SUITE'S BACKEND DATABASE TO EXTERNAL DATABASE

Adeptia Suite installation provides HSQL as the default backend database. Follow the steps in this section if you wish to move your backend database from the default database to a supported external database. This section contains information to move both the backend and quartz databases to an external database. However, we recommend that you move both the backend and quartz databases to the same external database environment.

BACKEND DATABASE SETUP

1. If there are objects in the Adeptia Suite whose backend database you want to move then you need to create an Offline zip using the Migration Utility.

    > For more information on how to migrate, please refer to the Migration Utility User guide. You can download the Migration Utility User Guide from:
    > http://www.adeptia.com/products/download/MigrationUtilityUserGuide.pdf

2. Connect to your new external backend database server.
3. Create a new database in SQL/MySQL/Oracle with appropriate name, for example **Adeptia_Backend**.
4. Go to the **..\AdeptiaSuite\AdeptiaSuite-<Version>\AdeptiaServer\ServerKernel\etc** folder and open an appropriate script from one of below available scripts on this location:
    *   create-backend-sqlserver.sql
    *   create-backend-mysql.sql
    *   create-backend-oracle.sql

    > In the **create-backend-oracle.sql** script, please replace the `[SchemaName]` code with the name of your schema that you would use in your oracle based database.

5. Run the SQL query on the Adeptia_Backend database. This action will create the required tables in the database.
6. Follow steps 3 and 4 and run the following scripts:

SQL Script	Result
initialize-backend-sqlserver.sql	
initialize-backend-mysql.sql	This script will initialize the backend tables.
initialize-backend-oracle.sql	
initialize-quartz-sqlserver.sql	This script will create the necessary tables of quartz on

initialize-quartz-mysql.sql	the Adeptia_Backend database.
initialize-quartz-oracle.sql	

> In the **initialize-quartz-oracle.sql** and **initialize-backend-oracle.sql** script, please replace the `[SchemaName]` code with the name of your schema that you would use in your oracle based database.

CONFIGURE BACKEND DATABASE WITH ADEPTIA SUITE

1. Stop the Adeptia Kernel and Adeptia Webrunner services.
2. Go to **...\AdeptiaSuite\AdeptiaSuite-<Version>\AdeptiaServer\ServerKernel\etc** folder and open the **server-configure.properties** file**.**
3. In the **server-configure.properties** file, search for **Embedded Database Settings** category, and remove `indigo` from the property (see Figure 1).

```
<Category hide="true" name="Embedded Database Settings">
    <Property comment="Database names comma separated" dynamic="no" name="abpm.embedded.db.names">
    indigo,logs</Property>
    <Property comment="Database port" dynamic="no" name="abpm.embedded.indigo.port">2476</Property>
    <Property comment="Database Server memory configuration" dynamic="no" name="abpm.embedded.indigo.memory">-Xms128M -
    Xmx256M -Xrs</Property>
    <Property comment="Database port" dynamic="no" name="abpm.embedded.logs.port">2477</Property>
    <Property comment="Database Server memory configuration" dynamic="no" name="abpm.embedded.logs.memory">-Xms128M -
    Xmx256M -Xrs</Property>
</Category>
```

Figure 1: Embedded Database Settings Category (Backend)

> `logs` would only be present if the log database is the embedded HSQLDB.

4. Go to the **Systems** category in the **server-configure.properties** file and change the properties as per your Database (see Figure 2).

```
</Category>
<Category name="Systems">
    <Group hide="true" name="Database Configuration">
        <Property comment="JDO Database Driver Url" dynamic="no" name="abpm.jdo.driver">
        org.hsqldb.jdbcDriver</Property>
        <Property comment="JDO Database Connection Url" dynamic="no" name="abpm.jdo.url">
        jdbc:hsqldb:hsql://127.0.0.1:2476</Property>
        <Property comment="JDO Database UserName" dynamic="no" name="abpm.jdo.username">sa</Property>
        <Property comment="JDO Database Password" dynamic="no" encrypt="y" name="abpm.jdo.password">I99KL/lB3Ss=
        </Property>
        <Property comment="JDO Mapping File" dynamic="no" hide="true" name="abpm.jdo.mapping.file">
            mapping.xml    </Property>
        <Property comment="JDO Database Name" dynamic="no" name="abpm.jdo.database.name">    indigo    </Property>
        <Property comment="JDO Database Engine Name" dynamic="no" name="abpm.jdo.engine.name">hsql</Property>
        <Property comment="Backend Database Type" dynamic="no" name="abpm.backend.dbType">HSQL</Property>
    </Group>
```

Figure 2: Systems Properties

Property Name	Value
abpm.jdo.driver	SQL - net.sourceforge.jtds.jdbc.Driver

	MySQL - com.mysql.jdbc.Driver
	Oracle - oracle.jdbc.OracleDriver
abpm.jdo.url	SQL - jdbc:jtds:sqlserver://<DatabaseServer>:1433;<DatabaseName>
	MySQL - jdbc:mysql://<DatabaseServer>:3306/<DatabaseName>
	Oracle - jdbc:oracle:thin:@<DatabaseServer>:1521:<DatabaseName>
abpm.jdo.username	**Username**
abpm.jdo.password	**Password** encrypt = **"n"**
abpm.jdo.engine.name	SQL - **sql** MySQL - **mysql** Oracle - **oracle**
abpm.backend.dbType	SQL - **SQL-Server** MySQL - **MySQL** Oracle - **Oracle**

5. Save the **server-configure.properties** file.
6. In the same folder, go to the **quartz.properties** file.
7. In the **Configure JobStore** section make the following changes (see Figure 3).

```
#==============================================================================
# Configure JobStore
#==============================================================================

org.quartz.jobStore.misfireThreshold = 60000
org.quartz.jobStore.maxMisfiresToHandleAtATime = 5

org.quartz.jobStore.class = org.quartz.impl.jdbcjobstore.JobStoreTX
org.quartz.jobStore.driverDelegateClass = org.quartz.impl.jdbcjobstore.StdJDBCDelegate
org.quartz.jobStore.useProperties = false
org.quartz.jobStore.dataSource = aBPM
org.quartz.jobStore.tablePrefix = ABPM_
org.quartz.jobStore.isClustered = false
org.quartz.jobStore.useDBLocks = false
```

Figure 3: Configure JobStore

Property	Value
org.quartz.jobStore.driverDelegateClass	SQL - org.quartz.impl.jdbcjobstore.MSSQLDelegate MySQL - org.quartz.impl.jdbcjobstore.StdJDBCDelegate Oracle - org.quartz.impl.jdbcjobstore.StdJDBCDelegate

8. In the **Configure Datasources** section make the following changes (see Figure 4).

```
#===========================================================================
# Configure Datasources
#===========================================================================

org.quartz.dataSource.aBPM.driver = org.hsqldb.jdbcDriver
org.quartz.dataSource.aBPM.URL = jdbc:hsqldb:file:embeddedDb/db/abpmquartz
org.quartz.dataSource.aBPM.user = sa
org.quartz.dataSource.aBPM.encryptPassword = yes
org.quartz.dataSource.aBPM.password = I99KL/lB3Ss=
org.quartz.dataSource.aBPM.maxConnections = 5
org.quartz.dataSource.aBPM.validationQuery=select lock_name from ABPM_LOCKS where lock_name = 'TRIGGER_ACCESS';
```

Figure 4: Configure Datasources

Property	Value
org.quartz.dataSource.aBPM.driver	SQL - net.sourceforge.jtds.jdbc.Driver MySQL - com.mysql.jdbc.Driver Oracle - oracle.jdbc.OracleDriver
org.quartz.dataSource.aBPM.URL	SQL - jdbc:jtds:sqlserver://**\<Database Server\>:\<Port\>;\<DatabaseName\>** MySQL - jdbc:mysql://**\<Database Server\>:\<Port\>/\<DatabaseName\>=\<Database Name\>** Oracle - jdbc:oracle:thin:@ **\<Database Server\>:\<Port\>:\<Database Name\>**
org.quartz.dataSource.aBPM.user	**Username**
org.quartz.dataSource.aBPM.encryptPassword	**no**
org.quartz.dataSource.aBPM.password	**Password**

9. Save the **quartz.properties** and Start the Adeptia Kernel and Adeptia Webrunner services.
10. Deploy the zip that you had created in Step 1 by using Migration Utility.

> For more information on how to migrate, please refer to the Migration Utility User guide. You can download the Migration Utility User Guide from:
> http://www.adeptia.com/products/download/MigrationUtilityUserGuide.pdf

11. Restart the Adeptia Kernel and Adeptia Webrunner services so that Adeptia Suite can establish connection to the new external backend database.
12. Login into Adeptia Suite and create a few activities to check the backend database connection.

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MOVING ADEPTIA SUITE'S LOG DATABASE TO EXTERNAL DATABASE

Adeptia Suite installation provides HSQL as the default embedded log database. The HSQL database is recommended for evaluation purposes because it is lightweight. For development or production installations we strongly recommend having any other external database that is stable, scalable, and has its own features of database backup and restore. Follow the steps in this document if you wish to move your log database from the default database to some external database.

This document provides steps to move Adeptia Suite's log database from HSQL to other supported database i.e. SQL Server, MySQL, and Oracle database.

LOG DATABASE SETUP

1. Connect to your new external log database server.
2. Create a new database on SQL-Server\MySQL\Oracle with appropriate name, for example **Adeptia_Log**.
3. Go to **...\AdeptiaSuite\AdeptiaSuite-<Version>\AdeptiaServer\ServerKernel\etc** folder and open appropriate .sql script from one of below available scripts on this location:
   - initialize-log-sqlserver.sql
   - initialize-log-mysql.sql
   - initialize-log-oracle.sql

   > ℹ️ In the **initialize-log-oracle.sql** script, please replace the `[SchemaName]` code with the name of your schema that you would use in your oracle based database.

4. Run the SQL query on the Adeptia_Log database. This action will create the required tables in the database.
5. Locate the **…\AdeptiaSuite\AdeptiaSuite-<Version>\AdeptiaServer\ServerKernel\etc** folder again and open the appropriate .sql script from one of below available scripts on this location:
   - create-indexes-sqlserver.sql
   - create-indexes-mysql.sql
   - create-indexes-oracle.sql

   > ℹ️ In the **create-indexes-oracle.sql** script, please replace the `[SchemaName]` code with the name of your schema that you would use in your oracle based database.

6. Run the SQL query on the Adeptia_Log database. This action will apply the required indexes on the log tables.

CONFIGURE LOG DATABASE WITH ADEPTIA SUITE

1. Go to **...\AdeptiaSuite\AdeptiaSuite-<Version>\AdeptiaServer\ServerKernel\etc** folder and open the **server-configure.properties** file**.**

2. Open the **server-configure.properties** file, search for **Embedded Database Settings** category, and remove **,**
    logs from the property (see Figure 5).

```
</Category>
<Category hide="true" name="Embedded Database Settings">
    <Property comment="Database names comma separated" dynamic="no" name="abpm.embedded.db.names">
    indigo,logs</Property>
    <Property comment="Database port" dynamic="no" name="abpm.embedded.indigo.port">2476</Property>
    <Property comment="Database Server memory configuration" dynamic="no" name="abpm.embedded.indigo.memory">-Xms128M
    Xmx256M -Xrs</Property>
    <Property comment="Database port" dynamic="no" name="abpm.embedded.logs.port">2477</Property>
    <Property comment="Database Server memory configuration" dynamic="no" name="abpm.embedded.logs.memory">-Xms128M -
    Xmx256M -Xrs</Property>
```

Figure 5: Embedded Database Settings Category

3. Login into Adeptia Suite with administrator user-id and password. By default, the administrator user-id is
    admin and password is **indigo1**.
4. Click on the **Administrator** tab and then go to **Setup → Application Settings → Update System Properties →**
    Systems → Logging → Database Appender (see **Figure 7**). Change the following properties:

Property Name	Comment	Database-specific Changes
log4j.appender.jdbc.url	JDBC URL	SQL - jdbc:jtds:SQLserver://<DatabaseServer>:1433;<DatabaseName> MySQL - jdbc:mysql:// <DatabaseServer>:3306/<DatabaseName> Oracle - jdbc:oracle:thin:@ <DatabaseServer>:1521:<DatabaseName>
log4j.appender.jdbc.dbclass	JDBC Driver Class	SQL - net.sourceforge.jtds.jdbc.Driver MySQL - com.mysql.jdbc.Driver Oracle - oracle.jdbc.driver.OracleDriver
log4j.appender.jdbc.username	JDBC User Name (Same for all DB)	**Username**
log4j.appender.jdbc.password	JDBC Password (Same for all DB)	**Password**
abpm.logs.dbType	Log Database Type	SQL - **SQL-Server** MySQL - **MySQL** Oracle - **Oracle**

5. Search for **Pagination** in the **server-configure.properties** file and change the following properties:

```
</Group>
<Group name="Pagination">
    <Property comment="Enable or Disable Pagination" dynamic="yes" name="abpm.pagination.enable">yes</Property>
    <Property comment="Maximum number of Records that will displayed in a page" dynamic="yes"
    name="abpm.pagination.page.size">10</Property>
    <Property comment="Pagination Database Handler Class" hide="true" name="abpm.pagination.db.handler">
    org.hdpagination.dataaccess.jdbc.hsqldb.HSQLDBJdbcQueryTemplate</Property>
    <Property comment="Pagination Backend Database Handler Class" hide="true"
    name="abpm.pagination.backenddb.handler">
    org.hdpagination.dataaccess.jdbc.hsqldb.HSQLDBJdbcQueryTemplate</Property>
</Group>
```

Figure 6: Pagination (Log Database)

Property Name	Comment	Database-specific Changes
abpm.pagination.db.handler	Pagination Database Handler Class	SQL - org.hdpagination.dataaccess.jdbc.sqlserver.SQLServer2005JdbcQueryTemplate MySQL - org.hdpagination.dataaccess.jdbc.mysql.MySqlJdbcQueryTemplate Oracle - org.hdpagination.dataaccess.jdbc.oracle.OracleJdbcQueryTemplate
abpm.pagination.logArchivaldb.handler	Pagination Log Archival Database Handler Class	SQL - org.hdpagination.dataaccess.jdbc.sqlserver.SQLServer2005JdbcQueryTemplate MySQL - org.hdpagination.dataaccess.jdbc.mysql.MySqlJdbcQueryTemplate Oracle - org.hdpagination.dataaccess.jdbc.oracle.OracleJdbcQueryTemplate

Figure 7: Editing Database Appender Properties

6. Click on the **Save** button and then click on the **Reload configuration** link.
7. Logout of Adeptia Suite.
8. Restart the Adeptia Kernel and Adeptia Webrunner services so that Adeptia Suite can establish connection to the new external log database.