CXBanking

OptiVault 9.16

Installation Guide

January 2023

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Revision Record

Date	Page No.	Description of Change
January 2023	ALL	Formatting Changes

Contents

Preface

Document conventions

Typographical conventions

The following typographical conventions are used:

Table 1: Typographical conventions

Style	Indicating
Bold	An option that you can select, for example, **Insert > Bookmark**
BoldItalic	Emphasis, for example, "This partition ***must not*** be modified." A physical key, for example, ***Shift+F9***
`Code`	Text displayed on-screen Commands or data entered by the user Code text and examples
Hyperlink	Links to Internet sites Internal cross-references
Italic	The first reference to a keyword The title of a publication, for example, *Product Overview* A file or folder name, for example, *C:\Program Files\NCR*

Admonition conventions

Notes and cautions alert you to important/critical information. Each is displayed in a different way:

Note: Notes contain information that has special importance, to which the reader should pay close attention, or tips with useful advice for the user on tasks or procedures.

△ **Caution:** Cautions alert you to procedures or conditions that could damage equipment or data.

Table 2: Admonition conventions

Notes and cautions in tables	
Note: Notes contain information that has special importance.	**Caution:** Cautions alert you to procedures or conditions that could damage equipment or data.

1 Introduction

The purpose of this document is to provide basic installation instructions for the OptiVault application. The architecture and environment of the installation may require additional configuration.

Although the installation media provides components for both Windows and UNIX, this document will provide samples and syntax based on the Windows operating system. The main modification for UNIX will be the file path name syntax.

The recommended process for installing OptiVault is:

1. Oracle Database Configuration (It is the responsibility of the client to ensure Oracle 12.2 or 19c is installed and running correctly PRIOR to the on-site product installation.)
2. Application and Web Server Configuration (It is the responsibility of the client to ensure the application & web servers are running correctly and readily accessible PRIOR to the on-site product installation).
3. Create New User in Oracle
4. Create New Schema in Oracle (NCR Cash Management provides a database dump file, or schema creation script)
5. Generate OptiVault license file
6. Deploy OptiVault WAR File
7. Define OptiVault System Settings
8. Batch Process Setup

OptiVault requires a base of the version 8 JDK. Most Application Servers already come with the required JDK (e.g. IBM WebSphere or Apache Tomcat) modification.

A clear understanding of Oracle and Application Server technology is required on the part of the user performing the installation.

2 Application Distribution

2.1 Application Component Checklist

Depending upon the client environment, the **Application Server** and **Oracle Database** Server could reside on the same physical machine, or different machines. The exact nature of this configuration should be agreed upon between NCR Cash Management and the client prior to installation. It is required that JDBC access is available between the Application Server and Oracle Database Server (as defined by the JDBC URL, which typically runs through port 1521).

In a split-server example, the Application Server would house the Web Components (e.g. OptiVault WAR file) on one machine, and a different machine will house the Oracle components.

The following are the required components for the OptiVault installation:

- **Oracle 12.2 or 19c and the latest patches relevant to the applicable O/S:** It is the responsibility of the client to ensure the Oracle database is running correctly and readily accessible PRIOR to the on-site installation.
- **OptiVault Schema Dump File or Schema DDL:** NCR Cash Management will provide the Oracle schema dump or data-pump file for installation OR the database structure command SQL file for all required tables, views, and constraints.
- **Java Application server, e.g. IBM WebSphere or Apache Tomcat:** It is the responsibility of the client to ensure the Application Server is running correctly and readily accessible PRIOR to the on-site installation.

  Note: The version 8 JDK is required for OptiVault.
- **OptiVault WAR File:** NCR Cash Management will provide the WAR file for deployment.
- **License File:** NCR Cash Management will provide a license SQL file based on the client's **OptiVault.log**

3 Oracle Setup

Note: It is the client's responsibility to have Oracle installed and running correctly and readily accessible PRIOR to the on-site installation performed by NCR Cash Management.

Additionally, it is the client's responsibility to prepare and agree with NCR Cash Management on the Oracle environment prior to the on-site installation. The Technical Overview document (separate) provides relevant information and shall serve as a basis for architectural consideration.

3.1 Configuration

1. Verify the Oracle memory settings are correctly defined and do not fall below the minimum memory requirements necessary for running OptiVault. kindly coordinate with Oracle System Administrator to ensure that memory settings are also taken into consideration with any other databases used in this Oracle environment.
2. The OptiVault application's Queries use many joins in the SQL statements. These joins usually exceed the default **sort_area_size**. Change the Oracle **sort_area_size** from **524288** to **1524288** on both the **Running** and **SPFile** pages (check on the radio button within the ***"Memory"*** tab of the ***Oracle DB Management*** Console). The **sort_area_size** must be changed in both the Running and SPFile tabs to allocate enough memory for some of the bigger SQL queries in OptiVault. When it is only changed in the Running tab, it will reset back to the default whenever Oracle is restarted.

3.2 Tablespaces

The following assumes steps are being performed in the **Oracle DB Management** Console. Similar actions may of course be performed with the tool and interface per DBA choice.

It is recommended that the OptiVault Tables and Indexes/Constraints be separated into different tablespaces. If you already have your tablespaces available, you may continue to the next section.

1. From the ***Oracle Enterprise Manager*** Console, click on the **Object Menu** and select **Create**.
2. Select **Tablespace** and click the **Create** button.
3. The next window allows you to specify the table space. Recommended table space names are **OPTIVAULT_DAT** for ***OptiVault data*** and the name **OPTIVAULT_IDX** for the ***OptiVault indexes***.

4. Type in the desired tablespace name. In the **"Size"** column, enter the anticipated size of your OptiVault data. This will depend upon the number of cashpoints, etc., but a minimum of 1-2GB is recommended for both the data and index table spaces.

Note: The **OptiVault Schema Definition Script** (DDL) will have tables and constraints defined such that:

5. Tables, Foreign Keys, and Views are defined in the Schema User's default tablespace. (e.g. **OPTIVAULT_DAT**).
6. Primary Keys and Indexes are defined in the **OPTIVAULT_IDX** tablespace.

You may modify the DDL script prior to execution as needed (e.g. changing the index tablespace, etc.).

3.3 Schema User

1. Choose a name similar to the schema you want to create, e.g. OptiVault, client name, etc. Make sure to select the appropriate ***Default Tablespace*** for the user. This would typically be the **OPTIVAULT_DAT** tablespace.
2. Select ***"Connect"*** and ***"Resource"*** from the Role list for the user. The user will need these roles to connect to the database and access database functions.
3. Select ***"UNLIMITED_TABLESPACE"*** from the System list for the user.

3.4 Schema Definition

The following files should be used to create a new schema base on the new user created in the previous step:

- **<client name>.dmp** (Oracle Schema Data Dump as provided by NCR Cash Management)
- **Master_Schema_Creation_Script_build<build_number>.sql**

NCR Cash Management will provide these files to the client.

1. You will first need to create the schema objects, per the **Master_Schema*.sql** script. This script can be modified as needed to reflect the desired tablespaces, etc.
2. Once completed, verify that there were no errors in the process, and the appropriate objects are created within the user schema for the appropriate Tablespaces. (You may do this from the Oracle Enterprise Manager Console or your DBA tool of choice.)
3. Execute the various par file imports, ensuring there are no errors.

4. Once completed, verify that there were no errors in the process, and the data has been loaded into the user's tables. (You may do this from the Oracle Enterprise Manager Console or your DBA tool of choice.)
5. It is strongly recommended to analyse the tables and indexes for the newly imported data immediately after import.

4 SQL Server Setup

4.1 Configuration

Verify the ***SQL Server*** memory settings are correctly defined and do not fall below the minimum memory requirements i.e., necessary for running OptiSuite (refer to SQL Server Installation document for more information on minimum memory requirements). Kindly coordinate with ***System Administrator*** to ensure that memory settings are also taken into consideration with other databases used by the bank in the SQL Server environment.

4.2 Schema User

1. Choose a name similar to the schema you want to create, e.g. OptiVault, client name, etc. and password accordingly in the ***General tab***
2. Select ***"public"*** and ***"dbcreator"*** from the Role list for the user. The user will need these roles to connect to the database and access database functions.
3. Select the respective database in the ***user mapping tab*** for that particular user. Select ***Grant permission*** to connect to the database engine and login enabled in the ***Status*** tab.

4.3 Schema Definition

The following files may be used to create a new schema base on the new user created in the previous step:

- Minimum of 2 DDL scripts to define tables, indexes, and default data records.
    - e.g.: **sqlserver-schema/data.sql**

NCR Cash Management will provide these files to the client. Make sure to save these files in the same directory.

The User will have two options to create the data schema:

1. Run the provided ***DDL SQL*** files.
    a. You will first need to create the schema objects, per the **sqlserver-schema.sql** script. This script can be modified as needed to reflect the desired tables etc.
    b. Once completed, verify that there were no errors in the process, and the appropriate objects are created within the user schema followed by running the **sqlserver-data.sql** script to add default data records to the created tables.

It is strongly recommended to analyse the tables and indexes for the newly imported data immediately after import.

5 JDK

Most Application Servers (e.g. IBM WebSphere or Apache Tomcat) already come with the JDK required for running the application server. The OptiVault application requires the installation of the **Java Development Toolkit** (JDK) version 8.

This document does not detail the installation of the JDK, since this is identified as a client's direct responsibility. The following provides a brief overview of specific scenarios that might be used for JDK Installation.

Note: The Runtime equivalent (JRE) is not sufficient since runtime compiling is required by the web application.

5.1 Single Application / Database Server Scenario

The critical thing in this scenario (the recommended scenario) is simply to ensure the JDK has been installed on the machine and is in use by the **Application Server**.

5.2 Split Application / Batch Server Scenario

In some client installations, the **Application Server** (e.g. WebSphere) and **Batch Server** reside on two different machines. In this example, WebSphere will house the Web Component (e.g. OptiVault WAR file) on one machine, and another machine would house the batch jobs.

The JDK will still need to be installed on the Batch Server.

Note: The entire **Application Server** need not be installed on the batch machine, only the JDK is required. This can be important to clients looking to reduce 3rd party Application Server licensing on two servers.

5.3 All Scenarios - Setting the JAVA_HOME Environment Variable

Once the JDK is installed, create a **WINDOWS ENVIRONMENT VARIABLE** for **JAVA_HOME** that corresponds to the location of the JDK.

e.g. Open up the ***Control Panel*** **>** ***System***, **"Advanced"** tab. Choose **"Environment Variables"**. Add a **"System Variable"** for:

- **Variable Name :** JAVA_HOME
- **Variable Value :** C:\Java\jdk1.8 (or the appropriate location of the JDK on the hard drive).

This will allow the system execution of the ***OptiVault Batch job Services***, which will be installed later. If you are running on another Operating System, you will need to follow similar steps, but with the **"setenv"** command instead (assuming UNIX).

6 Application Server

Note: It is the responsibility of the client to ensure the Application Server is running correctly and readily accessible PRIOR to the on-site installation to be performed by NCR Cash Management.

Additionally, the **Application Server** must be installed in a directory structure without spaces, e.g. **C:\IBM\WebSphere**.

It is also strongly recommended that the application server be deployed in the root directory (or close to the root directory).

7 OptiVault Deployment (Application Server)

7.1 WAR File Deployment

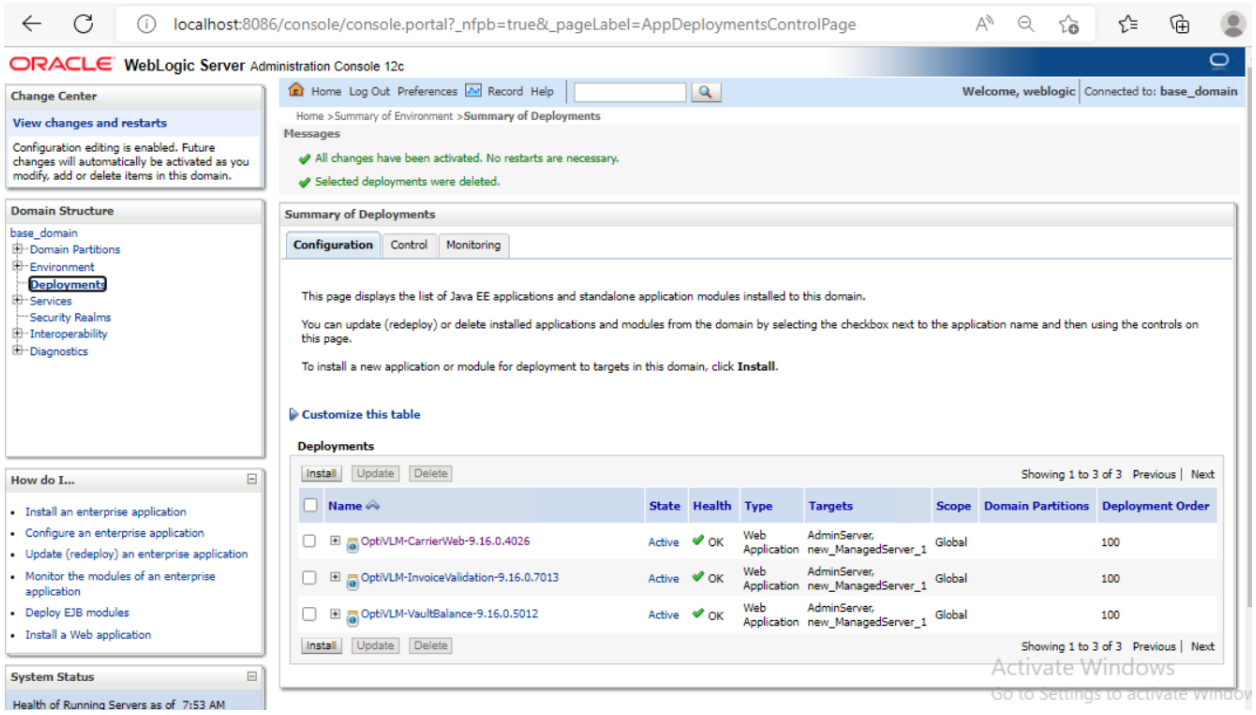
1. WAR files are readily deployable web-application containers, complete with supporting jars. Recommendation and forecast engines are also inside the WAR file.
2. The default deployment of OptiVault will be to a web application and URL called **"OptiVault"**. Many Application Servers (WebSphere, etc.) provide an application assembly tool to allow you to change the default context prior to deployment. Refer to the specifics of your Application Server for this. Additionally, you may change this by directly editing the **application.xml** file inside the WAR file.
3. The precise deployment technique for the installation WAR file depends on the Application Server chosen, e.g. ***IBM WebSphere*** or ***Apache Tomcat***.
4. If you are deploying on WebSphere, it is strongly recommended to enable the option **"Show me all installation options and parameters"** for deployment, unless you are already comfortable using a custom OptiVault deployment script specific to your institution.
5. DO NOT select ***"pre-compile JSPs"*** if that is an option when deploying the WAR file for your given Application Server.
6. OptiVault contains security roles within the WAR file (the ***web.xml*** file), which permit you to match authenticated users to application access. These roles are:
   a. **NormalRole** (conventional cash analyst who logs into OptiVault)
   b. **MaintenanceRole** (typically an App Server or IT administrator who configures the application with the JDBC access, input/output directories, log directories, etc.). This user would access the sub maint/ URL and associated pages.
7. You may choose to give any user access to these URLs of the application, and if so, simply enable the applicable options in accordance with your application server.
   a. **Example 1**: In the case of WebSphere, this is handled in the ***"Map security roles to users or groups"*** step of WAR deployment, where you can ***Look Up*** Users or Groups based on your applicable access directory plug-in. You can also grant these two roles to ***"Everyone"***.
   b. **Example 2**: In the case of Sun Java, these ***user-to-URL*** restrictions must be handled pre-deployment in the XML configuration files. To grant to ***"Everyone"*** simply remove the **<security-constraint>, <login-config>,** and **<security-role>** sections from the **web.xml** file prior to deployment.
8. If applicable, make sure to save the configuration post-deployment.
9. If applicable, make sure to regenerate the plug-in configuration for proper communication between the ***Web Server*** and the ***Application Server***.

8 OptiVault Deployment (Using WebLogic Server)

8.1 WAR File Deployment

- After logging in to the **Weblogic** console using valid credentials which were set at the time of installation in the left side pane under **Domain structure** click on **Deployments**
- Click on the **Install** button under the **Configuration** tab an **Install Application Assistant** will be displayed using this the required .war file can be imported into Weblogic
- On the next page of ***Install Application Assistant*** select installation type as ***application*** and click on ***next***
- Select the available target types like **admin server** and **managed servers** if any depending on the requirement i.e., in how many servers the application should be deployed
- Click on the ***Finish*** button to finish the setup,Weblogic will automatically display the deployed application in the dashboard with the status of the deployment like active for successful and errors if the deployment failed

Below is the dashboard view of Weblogic



9 OptiVault System Configuration

After the WAR file is deployed following the instructions in the previous steps, the following will indicate additional configurations that need to be defined.

1. Update the **<application-path>/WEB-INF/Log4j.properties** file to point to the **optivault.log** to the desired location.
   Log4J is a Java logging utility that logs the usage activity in the application.

Note: This should be the full path to the log file.

Open the **<application-path>/WEB-INF/Log4j.properties** file and edit line 16

(by default)

- log4j.appender.R.File=C:\\jrun\\servers\\default\\OptiVault\\WEB-INF\\OptiVault.log

(**Note**: The path below is not necessarily correct for your specific installation, rather it is for illustration purposes.)

- log4j.appender.R.File= C:/IBM/WebSphere/AppServer/profiles/default/installedApps/MIRAGENode01Cell/OptiVault.ear/OptiVault.war/WEB-INF/OptiVault.log

Note: Each time changes are made to any of the property files user needs to restart the Application Server where the WAR file was deployed so that the changes are applied. (Reconfigure the plug-in, as well, between your App Server and Web Server, if necessary.)

NOTE: The following lines are to suppress excessive DEBUG logging coming from Jasper Reports:

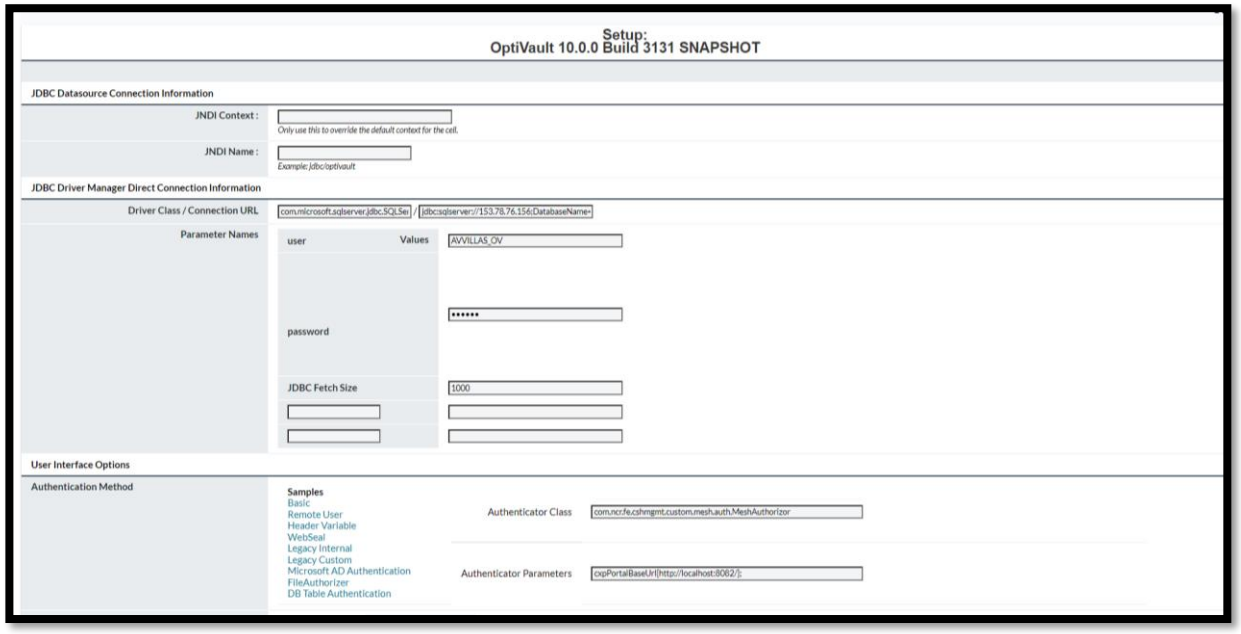
Suppress Jasper Reports Debug data

log4j.logger.net.sf.jasperreports=INFO, R

log4j.logger.org.apache.commons.digester=INFO, R

log4j.logger.org.apache.commons.beanutils.MethodUtils=INFO, R

2. Browse to http://<server_address>:<port>/optivault/maint/index.jsp (assuming the default application context of "optivault" was not changed in the **application.xml** file. Select the **"System Setup"** link, which takes you to http://<server_address>:<port>/optivault/maint/setup.jsp



3. The JNDI **Context** and **Name** should be filled in with the applicable JNDI information. If you are NOT using JNDI, then make sure these fields are empty.
4. The **'Driver Class'** field should be left as it is. The Connection URL should indicate the following:
   jdbc:oracle:thin@<server_name>:1521:<oracle_db_name>
   The example above is: jdbc:oracle:thin:@demo:1521:orcl
5. Indicate the user name and password as in the schema created for the OptiVault database. In the example above – it is 'DEMO_OV' and '******'.
6. You may leave the Authentication Method as **"Legacy Internal"** until the installation is complete and verified. After that time, switch to the authentication method of choice. Remote User authentication is recommended in order to utilize the inherent authentication method of the Web server.

Authentication Method	Description
Basic	This is a simple authentication method where the password is the user name. This method should never be used in production.
Remote User	This authentication method accepts the **"remote_user"** header variable from the HTTP request. This works identically to the **"External"** authentication method in the previous OV versions and is the preferred production method.
WebSeal	This authentication method accepts the **"iv_user"** header variable from the HTTP request.

Legacy Internal	This authentication method, provided for compatibility with earlier releases, accepts a username and password from an HTML form and verifies them against the database. **Note**: if the **"exuser"** column is blank or null for an authenticated user, this class will copy the **"username"** column into it. Otherwise, it works exactly like the **"Internal"** authentication in the previous OV versions. Also, because it uses the OptiVault database and database classes, it is not part of OptiCore. Instead, it is part of OptiVault itself. Variations of it must be produced for the other products. It is not recommended to use this authentication method in production.
Legacy Custom	This authentication method is provided for compatibility with earlier releases and expects a legacy **CustomAuthenticator** subclass as its parameter. Once configured that way, it works exactly like the **"Custom"** authentication in previous versions. Also, because it uses OptiVault classes, it is not part of OptiCore. Instead, it is part of OptiVault itself. Variations of it must be produced for the other products. It is not recommended to use this method for new installations.
Microsoft AD Authentication	***Microsoft ActiveDirectory Authentication***. This method requires Authenticator Parameters in the following format: FACTORY{LDAPfactory};PROVIDER{myURL};METHOD{value};DOMAIN{myDomain};DN{value} Example: FACTORY{com.sun.jndi.ldap.LdapCtxFactory};PROVIDER{ldap://server1:389};METHOD{simple};DOMAIN{home.myinstitution.com};DN{DC=home,DC=myinstitution,DC=com} This method uses LDAP to authenticate with an existing Microsoft ActiveDirectory installation. It is assumed that that installation will accept credentials in the form **"username@domain"** where the username is supplied by the user, and the domain is the parameter configured here. The other Authenticator Parameters are used to create the context. **Note:** When using Microsoft AD Authentication, users will likely have to be created with the External Auth. User field in this format: //LDAP/username@domain
File Authorizer	FileAuthorizer is a simple external authentication method where the **"external"** part is a file. The sample file can be found in **<OptiVault directory>\WEB-INF\classes**. This can be used for demo or test environments, or as an example for those developing a customized external authentication method but is not suitable for production environments.
Database Table Authentication	This authentication references a database to authenticate users. Often this is its own database but can be a separate authentication database if desired. If the **Database Table Authentication** option is selected, you will also need to configure additional parameters in **<OptiCash directory>\WEB-INF\DBAuthorizer-OV.properties** file as follows.

	Note: You will see some options in the file not listed here (query definition, etc). Those should not be changed from the default. **dbAuthorizer.database.dsn**: JNDI database connection name. Similar to section 3 above, this is a connection to the database. If desired to use JDBC connection then this field should be empty. **dbAuthorizer.database.url**: URL to authorization database, example: jdbc:oracle:thin:@server:1521:serverdb **dbAuthorizer.database.username**, **dbAuthorizer.database.password**: Schema username and password if using JDBC connection. Can be blank if using JNDI connection. **dbAuthorizer.digest.length**: Length of password after encryption. Longer is more secure but cannot exceed the maximum size of your target database's password field. **dbAuthorizer.digest.algorithm**: Algorithm to be used when encrypting a password. **dbAuthorizer.digest.seed**: Character string used to seed the encryption algorithm. It is recommended to change this away from the default. **dbAuthorizer.option.quiet**: "true" or "false". Quiet mode allows a password that was unencrypted to be encrypted without the user having to change that password. If false, then users are forced to change the password in that situation. This can be relevant when migrating from another auth method or in a case where the administrator previously reset a user's password. **Note**: If you plan to use Database Table Authentication, also known as **DBAuthorizer**, from multiple OptiSuite applications and point to the same single database for user management, then the digest **"length", "algorithm",** and **"seed"** settings above must be the same between all applications.

7. Select ***User Interface*** Language as **"English_US".**
8. Leave ***"Calendar length"*** as provided by default. Do not change this field.
9. The Import Path typically reflects the existing **<application-path>/import** directory as it exists under the deployment on the Application Server. However, this could be a location outside of the deployed application path. OptiVault load processes that use an input file will assume that the file is found in this location. If you point this to a location other than the typical **<application-path>/import** directory, then you will also need to create 2 subdirectories within that directory with the same names as subdirectories found in **<application-path>/import**.

△ **Caution**: The import directory is used to copy files that are being loaded to OptiVault (daily load files, order files, etc). When loading such files via interface it is recommended that the original path of the load files is other than the import directory. This is to avoid potential issues when the loaded files are replaced by the previously copied files in the import directory. Also, there may be issues

associated with loading files of bigger size when the load files are reduced in size while executing the load process via interface directly from the import directory.

10. The Output Path typically reflects the existing **<application-path>/output** directory as it exists under the deployment on the Application Server. However, this could be a location outside of the deployed application path. OptiVault processes that produce an output file will put it in this location.
11. The Logs Path typically reflects the existing **<application-path>/logs** directory as it exists under the deployment on the Application Server. However, this could be a location outside of the deployed application path.

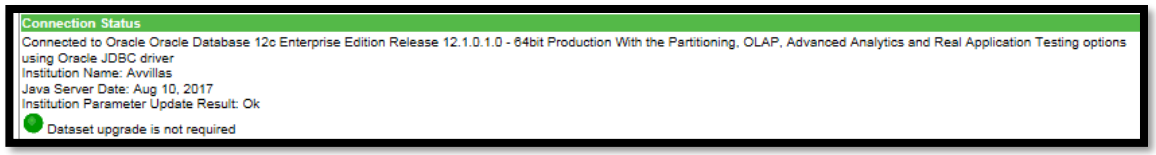
Note: It is recommended for this path to be the same path as that defined in **log4j.properties** for easy locating of the various job and application logs. Log files produced by OptiVault during normal operation will be put into this location.

12. CarrierWeb Service URL is a connection used to retrieve some data from **OptiVLM-CarrierWeb** application. Leave blank if you are not connecting to CarrierWeb.

Example: *http://host.com:9080/CarrierWeb/*

13. Define the **"Mail Host Name"**, which is the SMTP mail host server IP address or server name. This is used to email the daily load log files to an appropriate business analyst for review.
14. Click Update to save the changes. At the bottom of the screen in the **"Connection Status"** table, you should see the message indicating that a connection to Oracle is established.

Example:

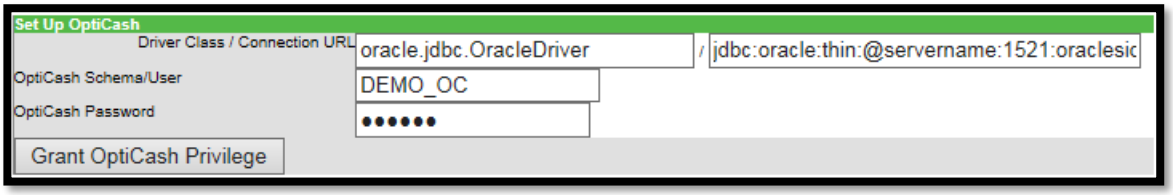


15. Once you are sure you have a working connection with Oracle for the OptiVault database, next point OptiVault to the OptiCash database. OptiVault uses information from OptiCash, so it is necessary to grant select privileges on various OptiCash tables to OptiVault.

Note: These items are only applicable if you are sharing data between OptiCash and OptiVault. Stand-alone OptiVault installations can skip this section.

- In the **"Set Up OptiCash"** table, enter the **Driver Class** and **Connection URL** for OptiCash.

Example:



- Enter the **OptiCash Schema/User** and the **OptiCash schema** password.
- Click the ***Grant OptiCash Privilege*** button.

Note: It is necessary to review the **OptiVault.log** to verify this process completed successfully. You should see log entries similar to the following:

- INFO -- Running Query : GRANT SELECT ON MYBANK_OC.CASHPNT TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.CAL_LIST TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.EVENTS TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.EVNTDATE TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.CALENDAR TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.DENOMDEF TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.SRVDEPOT TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.ORDERS TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.ORDERDEN TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.CP_DENOM TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.ATORDRTR TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.ATMHIST TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.RECOMTOT TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.RECOMDEN TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.RECOMSTATE TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.VABRECDN TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.ATMFREC TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.CP_RPROC TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.CRNCYDEF TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.CP_LINK TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.QUALITIES TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.CRNCY_EXCHANGE TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.CRNCY_INTEREST TO MYBANK_OV
  INFO -- Running Query : GRANT SELECT ON MYBANK_OC.ORDERS_MASTER TO MYBANK_OV
  INFO -- Grant OptiCash select to OptiVault finished!
- Informing you the process was successful. The tables mentioned above are the OptiCash tables read by OptiVault.

16. Browse back to the **/maint/index.jsp**, by clicking the blue house icon at the top of the page. (taking the user back to **<OptiVault URL>/maint/index.jsp**)
17. For Brazilian users, you may wish to turn on the CDI interest calculations (for holding cost). This is an alternative method to calculate compound interest rather than simple interest and no interest on Saturdays, Sundays, or Holidays.

    Note: This applies only during Recommendations generation and will be inconsistent with other features (like Cost reports). To turn this on, find file **<application-path>/WEB-INF/optivault.properties** and modify the values of the following parameters:

    cdi_interest_calculation=oncdi_interest_calculation_calendar_id=CDI_CALENDAR

    CDI_CALENDAR here may be replaced with a different calendar ID if desired. A Calendar with the same ID must be created within OptiCash and Events associated with that calendar that represent the holidays during which interest will not accrue.
18. Optionally, the email ***"From"*** address for notifications sent by OptiVault may be altered in file **{OptiVault directory}/WEB-INF/optivault.properties** by changing the **"JobSender"** variable.

    Example:
    JobSender=optivault@mybank.com
19. After the OptiVault setup is completed, it may be necessary to update your local java security to grant permissions, which will allow OptiVault to directly execute various OptiVault Java classes. If so, the following line should be added to the **java.policy** file:

    ```
    grant {
    permission java.security.AllPermission;
    };
    ```

10 OptiVault Licensing

1. To receive an OptiVault license, you will need to provide the **OptiVault.log** file to NCR Cash Management after an attempted login, which captures the needed information to generate a license. We have defined the location of the **OptiVault.log** file earlier in your **<application-path>/WEB-INF/Log4j.properties** file.
2. NCR Cash Management will create a license SQL script and relay that back to you.
3. To apply the SQL script, Go to http://<hostname>/optivault/maint/testsql.jsp
4. Copy and paste the new license script to the SQL editor and click Run SQL.
5. You should now be able to login to OptiVault successfully.

▲ **Warning**: This should only be carried out by a system administrator or database administrator as incorrect use of the SQL editor could cause corruption of the data.

11 OptiVault Customization

The most common customization you will perform is to the look of the user interface or language file edits.

11.1 Making Changes to the Language File

1. For instance, if you want to change the word ***"recommendation"*** to the word ***"suggestion"***, open the following file with a text editor (assuming English):

- <application-path>WEB-INF\classes\transoft_optivault_LanguageSet_English.properties

2. Search for the string **'=recommendation'**. Edit to **'=suggestion"**. Make sure to search for all occurrences of this word or string.
3. Save the file.
4. Restart the Application Server where the WAR file was deployed.

Note: OptiVault contains individualized properties files for text elements used in Reports. These files are found in the following location: **<application-path>WEB-INF\lib\optivault<version-number>.jar\transoft\optivault\reports** . Files will be named like **AuditReport_es.properties** where **"AuditReport"** is the report name and **"_es"** indicates the Spanish language. Other languages can be substituted instead of **"es"** – just use the same language abbreviation as found in **"locale.language"** in **<application-path>WEB-INF\classes\transoft_optivault_LanguageSet_<yourlanguage>.properties**

Customized language files are the client's responsibility to maintain. Before editing, save the original file (i.e. transoft_optivault_LanguageSet_English.orig.properties). In the future, with each OptiVault upgrade, the edited version will need to be saved PRIOR to installing a new WAR file. Once the WAR file has been deployed, then restore the edited version.

11.2 Making Changes to the Styles and Logos

1. All images are stored in the **<application-path>/WEB-INF/images directory**.
2. The main OptiVault style sheet is found at **<application-path>/styles/main.css**

Customized styles and logos are the client's responsibility to maintain. Before editing, save the original style sheet and image files. In the future, with each OptiVault upgrade, the edited version will need to be saved PRIOR to installing a new WAR file. Once the WAR file has been deployed, then restore the edited version.

11.3 Making Changes to the Report Styles and Text

Changes to the styles and text within OptiVault PDF and CSV reports are maintained separately per report.

1. Style definitions are maintained within each report **JRXML** file. e.g. The Vault Horizon report style can be found in **VaultHorizonReport.jrxml**. All styles are contained within the **<style>** and **<style name>** tags.
2. Textual elements are contained within the OptiVault.jar file under the **transoft/optivault/reports/** path, with an extension of **"properties"**. e.g., The Vault Horizon text can be found in **VaultHorizonReport.properties**

11.4 Setting Custom Order Fields

OptiVault allows the addition of up to 10 customizable fields to the ordering interface. These fields are configured in OptiVault under ***System > Order Settings > Custom Field Definitions***.

The option called **"SQL Query"** allows to add a menu to ordering screens with a dynamic list of options. If you intend to use this type of field, then the queries must be predefined during the OptiVault setup.

1. In the **<application-path>/WEB-INF/classes** directory, find the file **"transoft_optivault_custom_QueryString.properties"**. If it does not already exist, create it as a blank text file. This will be known as the **"custom query file"**.
2. Open the custom query file with a text editor. Enter the queries on separate rows in the following format: **<reference>=<SQL query>** where **'reference'** is what the user will type on ***System > Order Settings > Custom Field Definitions*** page and **'SQL query'** determines what options will be displayed when placing an order.

CustomField.active_date=?select actvdate from cashpnt where cashp_id \= '\:cashp_id\:';

3. Notice the segment **'\:cashp_id\:'** in the above example. This is a dynamic parameter being passed into the query at the time of opening an order creation screen. You may use the following parameters:

CASHP_ID	The cashpoint for which this order is being placed.
CPTYP_ID	The cashpoint type of the cashpoint for which this order is being placed. Possible values are VAULT.
ACTN_ID	The type of order being placed. 01=Delivery, 02=Return
SCHED_ID	Indicates if this order is an emergency (unplanned) or not. 01=Normal, 02=Unplanned

ORD_DATE	The date on which the order is being placed (current date usually).

Customized query files are the client's responsibility to maintain. Typically, this means saving an outside copy of the existing custom query file prior to an OptiCash upgrade, and then replacing that copy in the **<application-path>/WEB-INF/classes** directory after the upgrade is complete. Additionally, writing queries requires some knowledge of SQL (Structured Query Language) and the OptiCash database structure. NCR Cash Management support personnel are available to help with specific inquiries regarding this.

11.5 Audit Settings

The Auditing feature creates and stores a record of users' actions. Settings allow the system administrator to determine which actions to record and to what level of detail.

1. Open settings file: **<application-path>WEB-INF\classes\transoft_optivault_audit.properties**
2. Set auditing to **'none', 'partial',** or **'full'** for each function. See the table below for the meaning of each function ID number.
   - **None**: No recording occurs when this function is used.
   - **Partial**: Basic record is saved (statement parameters omitted).
   - **Full**: All available info is recorded when this function is used.
3. After making changes, save the file, and start (or restart) the OptiVault application.

Function ID	Description
0	Unknown **Note:** The Unknown category includes many secondary records (things that take place invisibly when the action noted in the main record occurs). It is the most common record type. It may be advantageous to set Unknown to **'partial'** logging to reduce the total amount of data logged by auditing.
1001	Updated Cashpoint Details
1002	Updated Vault Parameters
1003	Updated Vault Denomination
1004	Inserted Vault Requirements

Function ID	Description
1005	Import Vault Balance
1006	Saved Provisional Credit
1007	Linked Cashpoint to Vault
1008	Inserted Transit Time Setting
1009	Updated Vault Service Days
1010	Deleted Service Costs
1011	Updated Teller Verification
1012	Updated Vault Denomination Split
1013	Deleted Vault Sorter
1014	Updated Sort Capacity Utilization
1015	Created Denomination Definition
1016	Updated Denomination Definition
1017	Deleted Denomination Definition
1018	Updated Order
1019	Deleted Order
1020	Added Forecast Adjustment
1021	Inserted Forecast Horizon
1022	Updated Forecast Adjustment
1023	Deleted Job Message
1024	Inserted Job Message
1025	Updated Vault History
1026	Updated Vault Forecast Toggle Values
1027	Updated Horizon
1028	Import Vault Balance
1029	Deleted Cashpoint
1030	Updated Vault Denomination Quality Yield Split
1031	Updated Cross Shipping Yield
1032	Inserted Order
1033	Updated Commercial Service Days
1034	Updated Transit Time Setting

Function ID	Description
1035	Added Denomination to Cashpoint
1036	Removed Denomination from Cashpoint
1037	Updated Vault Requirement
1038	Deleted Vault Requirement
1039	Removed CP from Vault
1040	Add Sorter to Vault
1041	Update Vault Sorter
1042	Accept Recommendation
1043	Inserted Service Cost
1044	Removed Service Cost
1045	Removed Forecast Adjustment
1046	Exclude Commercial History
1047	Update CI Service Days
1048	Update CI History
1049	Delete CI
1050	Remove External Funding Source
2001	Inserted Commercial History
2002	Deleted Job
2003	Inserted Job
2004	Deleted Job Message
2005	Inserted Job Message
2006	Deleted User Job Message
2007	Deleted Horizon
2008	Deleted Setting
2009	Saved Setting
2010	Updated Constraint Calculation Set
2011	Created Constraint Calculation Set
2012	Deleted Constraint Calculation Set
2013	Deleted Cost Table
2014	Inserted Horizon for Projected Cost

Function ID	Description
2015	Updated Cost Options
2016	Inserted Cost Options
2017	Inserted Orders Sum and Details From Load File
2018	Inserted Orders Denomination Details From Load File
2019	Updated Orders Sum and Details From Load File
2020	Updated Orders Denomination Details From Load File
3001	Created Cashpoint
3002	Created Depot
3003	Updated Depot
3004	Deleted Depot
3005	Created Group
3006	Updated Group
3007	Removed Group Cashpoints
3008	Deleted Group
3009	Created Order Constraint
3010	Deleted Order Constraint
3011	Updated Sorters
3012	Deleted Sorters
3013	Mass Assign Funding Source
3014	Mass Assign Overnight Earn. Rate
3015	Mass Assign Insurance Rate
3016	Mass Assign Max Hold
3017	Mass Assign Max Pallets
3018	Mass Assign Bulk Order
3019	Mass Assign Aggregate Emergencies
3020	Mass Assign Clearance Time
3021	Mass Assign Packaging Time
3022	Mass Assign Minimum Delivery
3023	Mass Assign Minimum Return
3024	Mass Assign Minimum Unplanned

Function ID	Description
3025	Mass Assign Delivery Handling Cost
3026	Mass Assign Return Handling Cost
3027	Mass Assign Delivery Days
3028	Mass Assign Return Days
3029	Mass Assign Unplanned Days
3030	Mass Assign Delete Service Cost
3031	Mass Assign Insert Service Cost Amount
3032	Mass Assign Insert Service Cost Range
3033	Mass Assign Insert Service Unit Size
3034	Mass Assign Update Service Cost
3035	Created Sorter
3036	Updated Cross Shipping Zone
3037	Created Cross Shipping Zone
3038	Deleted Cross Shipping Zone
4001	Created Calendars
4002	Deleted Calendars
4003	Created Event List
4004	Added Event to Event List
4005	Associated Calendar with Event
4006	Dissociated Calendar with Event
4007	Deleted Cashpoint from Calendar
4008	Updated Calendar
4009	Deleted Event Definition
4010	Updated Event
4011	Updated Event Date
4012	Updated Event List
4013	Add Cashpoint to the calendar
4014	Removed Event from Event List
4015	Updated Event List
4016	Deleted Event List

Function ID	Description
4017	Created an Event
5001	Updated Institution Parameters
5002	Updated Override Reason
5003	Deleted Override Reason
5004	Created User
5005	Updated User Info
5006	Inserted into Access Control List
5007	Deleted from Access Control List
5008	[Currently not used]
5009	Cloned Commercial
5010	Cloned Vault
5011	Renamed Vault ID
5012	Delete Vault History
5013	Replaced Vault Last Load Information
5014	Delete Commercial History
5015	Delete CI History
5016	Replaced CI Last Load Information
5017	Deleted Forecast Queue
5018	Deleted Unused Calendars
5019	Deleted Recommendations
5020	Deleted Orders
5021	Created Override Reason
5022	Deleted User
5023	Deleted Business Unit
5024	Rename CI ID
5025	Rename Commercial ID
5026	Update All Used Calendars
5027	Insert All New Calendars

12 Batch Processes

The purpose of batch process execution is to provide more time efficient execution of regular OptiVault processes. The jobs can be scheduled to run overnight.

All the batch process files will be located under the deployment directory of the OptiVault Web Application in the **'batch'** directory. The batch files will be available after the OptiVault WAR File is deployed.

Example:
C:\IBM\WebSphere\AppServer\profiles\default\installedApps\MIRAGENode01Cell\OptiVault.ear\OptiVault.war\Batch

	**Note**: Each time a WAR file is deployed or upgraded to a newer version, batch files will need to be backed up to save the environment settings. For that reason, the batch directory should be moved to a different location during installation, from where the processes will be run on an ongoing basis.

The batch files:

1. Are intended to be used by the customer to implement their own production-quality batch processing schedule.
2. Can be executed in their current form to carry out the basic processing steps, however, the expectation is that the customer will either modify/wrap or rewrite the scripts to meet the banks internal batch standards and to closely integrate with the bank environment, considering issues such as file transfers, on-call alerts, standard scheduling packages and/or programming languages etc.

NCR Cash Management recommends the customer to first run the process in its basic form using the batch process and then, as necessary, make the changes to meet the local institution's requirements.

	**Note**: NCR Cash Management does not provide ongoing support for the batch files due to integration requirements to existing customer systems, specific customer procedures in relation to data file interfaces, a variety of scheduling capabilities and security concerns. Therefore, it is the responsibility of the client to review, understand and support these batch files.

12.1 Ant Based Execution of Batch

Commencing with OptiSuite version 8, it is recommended to execute our batch processes via ANT, although other methods may be possible. The Java standard Apache ANT package is used to execute the custom export framework, and it is available for free for any

operating system. ANT is available at http://ant.apache.org. The custom export requires ANT version 1.7 at minimum.

ANT will need to be downloaded onto the computer which is running the custom output. Since ANT is java-based, you may simply unzip the Ant directory structure, and add the underlying **"bin"** directory to the system path so that calls to execute **"**ant**"** are found. If ANT is not added to the system path, simply call the fully-loaded path to the ANT executable instead.

Since ANT is a Java-based utility, **%JAVA_HOME%** must also be defined, but this should have been done earlier in the installation process and if so, no additional action is necessary.

There are three files of importance for executing the batch process:

- **build.properties –** This file contains the properties associated with each batch process.
- **build.xml –** This file contains the configuration and calls to each underlying batch process, using the parameters defined in the build.properties file.
- **ant_execution_samples –** This file contains sample calls to execute each process via ant

12.1.1 General Parameters

These parameters must be set in the **build.properties** file

- optivault.dir=The directory path of the OptiCash war file. e.g. C:/IBM/WebSphere/AppServer/profiles/AppSrv01/installedApps/ironhideNode01Cell/OptiVault.ear/OptiVault.war/
- optivault.lib.dir=The directory path to the application server jar files. e.g. C:/IBM/WebSphere/AppServer/lib
- optivault.oracle.dir=The directory oracle ojdbc jar file.
- optivault.user=A valid user in OptiVault who has rights to the given batch functions and cashpoints.

12.2 Load Balance

The Load_Balance batch will load daily load file(s), i.e. the file(s) that supply the activity and balance figures for the VAULT and COMMERCIAL cashpoints. Refer to the document ***OptiVault Input/Output Formats*** for more information about this load format.

12.2.1 Properties

- Load_Balance.fileName=Name of the file to be loaded. The file must be in the applicable defined import directory (e.g. C:\OptiSuite\optivault\import). Supply only the Basic Filename - No path is necessary. If loadedfrom ETL, put 'none' or 'na'.
- Load_Balance.cashpointType=Valid Cashpoint Types: VAULT, COMMERCIAL

- Load_Balance.delim=Supported separators – comma, tab. If loaded from ETL, put 'none' or 'na'.
- Load_Balance.mailaddr=Email addresses, where the log file is sent once the process is completed
- Load_Balance.source=Data source: file, ETL

12.2.2 Syntax

ant -f build.xml Load_Balance

12.3 First Level Aggregation

The First_Level_Aggregation batch will run the first-level aggregation between OptiCash and OptiVault.

12.3.1 Properties

- First_Level_Aggregation.startDate=Starting date of the aggregation. The format should be yyyy-mm-dd
- First_Level_Aggregation.endDate=End date of the aggregation. The format should be yyyy-mm-dd
- First_Level_Aggregation.HorizonLen=Length of desired Horizon
- First_Level_Aggregation.CurrencyID=Currency ID to be aggregated

12.3.2 Syntax

ant -f build.xml First_Level_Aggregation

12.4 Run Recommendations

The Run_Recommendations batch will run the OptiVault recommendation process.

12.4.1 Properties

- Run_Recommendations.Group=valid group in OptiVault
- Run_Recommendations.OVSetId=Valid Recommendation Job Process ID (e.g. 1, 2, 3, etc.)

12.4.2 Syntax

ant -f build.xml Run_Recommendations

12.5 Run AllRecommendations

The Run_AllRecommendations batch will run all of the OptiVault recommendation processes which are marked as **"Recurring"**.

12.5.1 Properties

- This job requires no parameters.

12.5.2 Syntax

ant -f build.xml Run_AllRecommendations

12.6 Orders Output

The Output_Orders batch will output OptiVault orders.

12.6.1 Properties

- Output_Orders.delim=Supported separators – comma
- Output_Orders.mailaddr=Email addresses, where the log file is sent once the process is completed
- Output_Orders.jobID=Valid Orders Order Job Process ID (e.g. 1, 2, 3, etc.)

12.6.2 Syntax

ant – f build.xml Output_Orders

12.7 Recommendations Output

The Output_Recommendations batch will output OptiVault orders.

12.7.1 Properties

- Output_Recommendations.fileName=Name of file to be output.
- Output_Recommendations.delim=Supported separators – comma
- Output_Recommendations.startDate=Starting date of recommendations
- Output_Recommendations.endDate=Endign date of recommendations
- Output_Recommendations.mailaddr=Email addresses, where the log file is sent once the process is completed

12.7.2 Syntax

ant -f build.xml Output_Recommendations

12.8 Orders Load

The Load_Orders batch will load VAULT orders.

12.8.1 Properties

- Load_Orders.loadfile=Name of the file to be loaded
- Load_Orders.delim=Supported separators – comma
- Load_Orders.mailaddr=Email addresses, where the log file is sent once the process is completed
- Load_Orders.overwrite=Overwrite existing order records in the data- yes, no
- Load_Orders.optld=Write invalid records to a file - yes, no
- Load_Orders.datchk=Validate order & due date - yes, no

12.8.2 Syntax

ant -f build.xml Load_Orders

12.9 Calculate CI Constraints

The Calculate_Constraints batch will run the CI CAP/OBMH calculations.

12.9.1 Properties

- Calculate_Constraints.setID=Calculation Settings ID
- Calculate_Constraints.mailaddr=Email addresses, where the log file is sent once the process is completed
- Calculate_Constraints.integerStart=Start at date relative to today; 0 is today, -1 is yesterday, 4 is four days in future
- Calculate_Constraints.integerEnd=End at date relative to today; 0 is today, -1 is yesterday, 4 is four days in future
- Calculate_Constraints.from=from
- Calculate_Constraints.to=to
- Calculate_Constraints.day=day

12.9.2 Syntax

ant -f build.xml Calculate_Constraints

12.10 Run Forecast

The Run_Forecast batch will run the forecast in batch.

12.10.1 Properties

- Run_Forecast.ForecastType=batch
- Run_Forecast.Horizon=Valid Forecast Definition ID
- Run_Forecast.FilterType=Filter type. Method of selecting cashpoints. I = institution (all cashpoints). G = group. V = cashpoint (vault or commercial)
- Run_Forecast.Filter=The ID of the filter based on the filter type. Used if the filter type IS NOT "I"
- Run_Forecast.mailaddr=Email addresses, where the log file is sent once the process is completed

12.10.2 Syntax

ant -f build.xml Run_Forecast

12.11 Run Commercial Consolidation

The ComConsolidation batch will run merge the commercial forecast into the associated vault's forecast.

12.11.1 Properties

- ComConsolidation.setID=Valid Commercial Consolidation Setting ID from within OptiVault.

12.11.2 Syntax

ant -f build.xml ComConsolidation

12.12 Cost Calculation

The Cost Calculation batch process will determine the costs of actual or projected activity in vaults. The resulting values will be available in OptiVault reports.

12.12.1 Properties

- Cost_Calculation.cashGroup_id= ID of the group of cashpoints for which cost calculation will run.
- Cost_Calculation.model_id= "none" – not used in this version of OptiVault

- Cost_Calculation.startDate=YYYY-MM-DD – costs will be calculated for activity beginning on this date
- Cost_Calculation.endDate = YYYY-MM-DD – costs will be calculated for activity ending on this date
- Cost_Calculation.calcType = “ACTUAL” or “PROJECTED”

12.12.2 Syntax

ant -f build.xml Cost_Calculation

12.13 Purge Application File Data

The process to delete temporary files (usually report document files and generated graph images)

12.13.1 Properties

- Purge_ApplicationFile_Data.daysInPast= Delete files which were created more than this number of days in past.
- Purge_ApplicationFile_Data.mailaddr= Email addresses, where the log file is sent once the process is completed

12.13.2 Syntax

ant -f build.xml Purge_ApplicationFile_Data

12.14 Purge Cashpoint Costs

The process to delete cashpoint cost records.

12.14.1 Properties

- Purge_Cashpoint_Cost.monthsInPast= Delete data more than this number of months in the past
- Purge_Cashpoint_Cost.mailaddr= Email addresses, where the log file is sent once the process is completed

12.14.2 Syntax

ant -f build.xml Purge_Cashpoint_Cost

12.15 Purge Calendar Events

Process to delete calendar Event records.

12.15.1 Properties

- Purge_Event.monthsInPast= Delete data more than this number of months in the past
- Purge_Event.mailaddr= Email addresses, where the log file is sent once the process is completed

12.15.2 Syntax

ant -f build.xml Purge_Event

12.16 Purge Forecast Adjustments

The process to delete Forecast Adjustment records which were only applicable in the past.

12.16.1 Properties

- Purge_Forecast_Adjustment.monthsInPast= Delete data more than this number of months in the past
- Purge_Forecast_Adjustment.mailaddr= Email addresses, where the log file is sent once the process is completed

12.16.2 Syntax

ant -f build.xml Purge_Forecast_Adjustment

12.17 Purge CI CAP/OBMH

The process to delete Custodial Inventory CAP and OBMH (On Book Minimum Holding) records.

12.17.1 Properties

- Purge_Obmh_Cap.daysInPast= Delete data more than this number of days in the past
- Purge_Obmh_Cap.mailaddr= Email addresses, where the log file is sent once the process is completed

12.17.2 Syntax

ant -f build.xml Purge_Obmh_Cap

12.18 Purge Audit Records

The process to delete records of OptiVault user activity.

12.18.1 Properties

- Purge_Audit.daysInPast= Delete data more than this number of days in the past
- Purge_Audit.mailaddr= Email addresses, where the log file is sent once the process is completed

12.18.2 Syntax

ant -f build.xml Purge_Audit

12.19 Purge History

The process to delete cashpoint history data.

12.19.1 Properties

- Purge_History.monthsInPast= Delete data more than this number of months in the past
- Purge_History.mailaddr= Email addresses, where the log file is sent once the process is completed

12.19.2 Syntax

ant -f build.xml Purge_History

12.20 Purge Recommendations

The process to delete recommendation records.

12.20.1 Properties

- Purge_Recommendations.daysInPast= Delete data more than this number of days in the past
- Purge_Recommendations.mailaddr= Email addresses, where the log file is sent once the process is completed

12.20.2 Syntax

ant -f build.xml Purge_Recommendations

12.21 Purge Orders

The process to delete order records.

12.21.1 Properties

- Purge_Orders.daysInPast= Delete data more than this number of days in the past

- Purge_Orders.mailaddr= Email addresses, where the log file is sent once the process is completed

12.21.2 Syntax

ant -f build.xml Purge_Orders

12.22 Cashpoint Synchronization

The process to bring OptiCash cashpoint details into OptiVault. Create, update, and delete cashpoints as well as ensure relationships between cashpoints are the same as OptiCash.

12.22.1 Properties

- Batch_Cashpoint_Synchronization.insertFlag= “yes” or “no”. New cashpoints in OptiCash will be added to OptiVault.
- Batch_Cashpoint_Synchronization.updateFlag= “yes” or “no”. Cashpoint details from OptiCash will overwrite the same that already exists in OptiVault.
- Batch_Cashpoint_Synchronization.deleteFlag= “yes” or “no”. Cashpoints already removed from OptiCash will be removed from OptiVault.
- Batch_Cashpoint_Synchronization.mailaddrPurge_Orders.mailaddr= Email addresses, where the log file is sent once the process is completed

12.22.2 Syntax

ant -f build.xml Batch_Cashpoint_Synchronization

12.23 Calendar Refresh

The process to bring OptiCash system settings into OptiVault. Calendars, Events, Currency and Denomination Definitions, Service Depots, and Exchange Rates are all made to be the same as OptiCash.

12.23.1 Properties

- Batch_Calendar_Refresh.mailaddr= Email addresses, where the log file is sent once the process is completed

12.23.2 Syntax

ant -f build.xml Batch_Calendar_Refresh

12.24 Extend Event Dates

Process for automatically extending Event date definition. “Events” in OptiVault are defined like rules: for example, Event “X” happens on the 4th Thursday of November. “Event Dates” are that rule translated to specific calendar days: for example, 28-Nov-2013, 27-Nov-2014, 26-Nov-2015, 25-Nov-2016. Event Dates need to exist for the Forecast process, so occasionally there is a need to extend further into the future. This process does that in an automatable fashion.

12.24.1 Properties

- ExtendEventDates.startDate= YYYY-MM-DD or “default” or “all”. If a specific date is given, Event date generation begins then. If “default” is specified, Event date generation begins at end of existing Event Dates and goes to the current date + 5 years. If “all” is specified, Event dates are generated for 2 years in the past, the current year, and 2 years beyond.
- ExtendEventDates.mailaddr= Email addresses, where the log file is sent once the process is completed
- ExtendEventDates.overwrite= “yes” or “no”. If “yes” is specified, existing event dates are removed and replaced with newly generated Event dates. If “no”, then newly generated Event dates are added to whatever existed before.

12.24.2 Syntax

ant -f build.xml ExtendEventDates

13 File Maintenance

The following directories should regularly be purged in the deployed instance of OptiVault:

- dynimages\ - (Kavachart images (pie charts, forecast graphs, etc.) as generated by the UI)
- dynreports\ - (old CSV and PDF reports)

User institutions should purge these directories weekly. Deleting files from these directories should have no negative impact on the application.

Process logs (i.e. Recommendation logs, Forecast logs, Orders Output logs, etc.) should be purged occasionally, as well. The directory location for these log files will be the logs directory of the deployed instance. The interval for purging these logs will vary upon how much the client decides to keep archived, but it is not recommended to keep these files for more than a month, at most, unless there are compelling reasons.

14 Redeploying the OptiVault Oracle Schema

1. It is recommended to have nightly backups of the OptiVault Oracle schema.
2. Users may back up the data using replication, a simple ***Oracle EXP*** command, or other tools of choice for the DBA.
3. You would reload data following the schema user create and import methods outlined earlier in the installation guide.

15 Preventing Access to System Maintenance

All system maintenance functions are stored in the maint sub-directory in the **OptiVault.war/ directory**.

If you choose to limit access to this directory, you may either:

1. Limit access to the URL using the provided security roles which can be mapped to plug-in Users and/or Groups (recommended).
2. Limit access to the URL at the web tier (recommended).
3. Move the directory to another location outside of the deployed instance once OptiVault is setup properly. You can always modify the **optivault.properties** file manually if needed.
4. Delete the directory once OptiVault is setup properly. You can always modify the **optivault.properties** file manually if needed.

16 Additional Dependencies for OptiVault in Tomcat

For clients deploying OptiVault on Apache Tomcat, you will need to configure the CSRF security properties to use the random number generator included with your app server (default refers to one for IBM WebSphere). Find file **{root directory}\WEB-INF\classes\Owasp.CsrfGuard.properties** and modify the following two properties:

- org.owasp.csrfguard.PRNG=SHA1PRNG
- org.owasp.csrfguard.PRNG.Provider=SUN

This example shows a typical Apache Tomcat setup. Similar lines referring to the IBM generator will need to be removed or commented out.

Also, you will need to deploy the following additional dependencies (jar files) under Tomcat **"lib"** directory (IBM WebSphere typically comes with these already included). For example, if Tomcat is installed under

```
C:\apache-tomcat-7.0.35
```

then the jar files mentioned in this document should be put in

```
C:\apache-tomcat-7.0.35\lib
```

Note: The version of each depends on the version of Tomcat installed.

These files should be downloaded from a trusted internet source, such as mvnrepository.com.

16.1.1 Tomcat 7

Following are dependencies that are required by OptiCash/OptiNet in Tomcat 7

File name
el-api-2.2.jar
el-impl-2.2.1-b05.jar
geronimo-jpa_2.0_spec-1.1.jar
javax.servlet.jsp-api-2.2.1.jar
javax.servlet-api-3.0.1.jar
jstl-1.2.jar
jstl-api-1.2.jar
jstl-impl-1.2.jar

jta-1.1.jar
validation-api-1.0.0.GA.jar

16.1.2 Tomcat 8

Following are dependencies that are required by OptiCash/OptiNet in Tomcat 8

File name
javax.el-api-3.0.0.jar
geronimo-jpa_2.0_spec-1.1.jar
javax.servlet.jsp-api-2.3.1.jar
javax.servlet-api-3.1.0.jar
jstl-1.2.jar
jstl-api-1.2.jar
jstl-impl-1.2.jar
jta-1.1.jar
validation-api-1.0.0.GA.jar

16.1.3 Tomcat 9

Following are dependencies that are required by OptiCash/OptiNet in Tomcat 9

File name
geronimo-jpa_2.0_spec-1.1.jar
javax.servlet.jsp-api-2.3.3.jar
javax.servlet-api-4.0.1.jar
taglibs-standard-impl-1.2.5.jar
taglibs-standard-spec-1.2.5.jar
jta-1.1.jar

validation-api-1.0.0.GA.jar

17 IMPORTANT NOTE

To upgrade the application version to 9.16 with SQL Server, below are the steps.

1. Customers having older versions (<9.16) must be upgraded to 9.16 without changing the DB server (Oracle).
   a. This step is taken care by the application if 9.16 war with oracle properties is deployed into the webserver.
   b. After deployment, the user is prompted to upgrade DB Schema. This is also specific to OC and OV. For VLM, products the upgrade is taken care by Liquibase.
2. Create Database and schema in SQL Server as mentioned in installation.
3. Migrate data from Oracle to SQLServer(taken care by NCR Team).
4. Update Oracle DB properties with SQLServer Details in 9.16 war and deploy.

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NCR welcomes your feedback on this document. Your comments can be of great value in helping us improve our information products. Please contact us using the following address:
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