

HP Project and Portfolio Management Center

Software Version: Content Pack 1.0

Vertica for PPM Administrator's Guide

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Chapter 1: Introduction

- ["About this Document" below](#)
- ["Vertica for PPM Content on HP Live Network" below](#)
- ["Related Documents" on page 7](#)

About this Document

This guide provides information about how to deploy the Vertica for Project and Portfolio Management Center (PPM) solution . It is written for PPM Center administrators, configurators, and DBAs who are knowledgeable about PPM Center.

This chapter provides an overview of the components and structure of the Vertica for PPM solution.

You can refer to the PPM Center 9.30 Data Model Guide for the following additional information as well:

- **Vertica for PPM Diagrams** illustrates the relationship diagrams of Vertica for PPM.
- **Definitions of Vertica for PPM Tables** provides a detailed description of each table in the Vertica for PPM schema. Refer to this guide to obtain a detailed understanding of the underlying structure of Vertica for PPM.

Audience for this Document

This document is written for PPM Center administrators. Administrators are assumed to be moderately knowledgeable about enterprise application development and skilled in enterprise system and database administration.

Vertica for PPM Content on HP Live Network

HP Live Network (HPLN) is an online virtual community for product experts, partners, and customers to collaborate and share knowledge, best practices, and add-on content for HP software products, including PPM Center, Operational Reporting, and Vertica for PPM. You can log in to the Operational

Reports Community page on HPLN to access the latest news, updates, and documentation for Vertica for PPM. You can browse from the Operational Reports community page or subscribe to receive notifications via email.

Access to HPLN is free to all PPM Center customers. You must have an HP passport account to access the PPM Center and Operational Reports community pages.

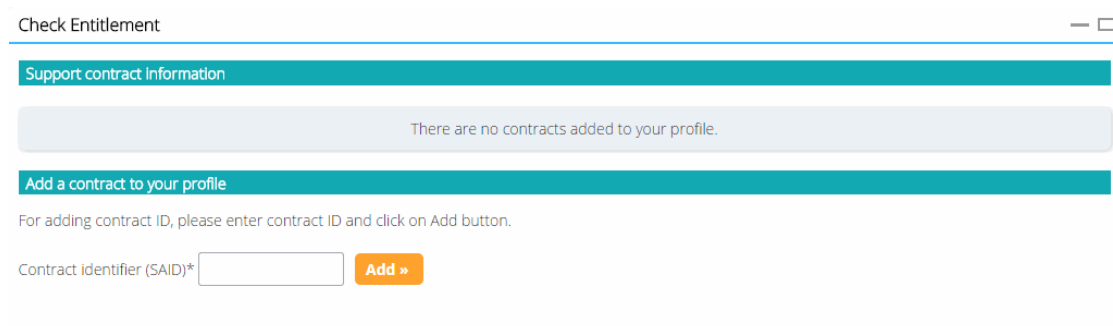
Note: Only project owners and administrators can post to the Announcements forum. If you are not a project owner or administrator, direct your feedback to the project owner or the general discussion forum.

Logging On to HP Live Network

To access Operational Reports content on HPLN:

1. Go to the [HP Support Contract information](https://softwaresupport.hp.com/group/softwaresupport/settings) page (https://softwaresupport.hp.com/group/softwaresupport/settings).
2. Sign in to the HP Passport page.

The HP Support Contract information page opens.



3. In the **Contract identifier (SAID)*** box, type your service agreement ID (SAID) and click **Add**.
4. Go to the [Operational Reports Content for Project and Portfolio Management](#) page on HP Live Network.
5. To view the latest announcements about Vertica for PPM, select the **Announcements** tab.

Related Documents

This section lists HP documents that contain useful information for Vertica for PPM administrators and users.

HP PPM Center Documents for Vertica for PPM Content Pack 1.0

- *Vertica for PPM Release Notes for Content Pack 1.0*
- *Vertica for PPM User's Guide for Content Pack 1.0*
- *Vertica for PPM Reporting Customization Guide for Content Pack 1.0*
- *PPM Center 9.30 Data Model Guide*

Accessing PPM Center Documentation

To obtain HP PPM Center documentation go to the HP Software Support Online website at <http://softwaresupport.hp.com>. To access this website, you must first register for HP Passport account.

Chapter 2: Deploying Vertica for PPM

This chapter provides the information you need to implement the Vertica for PPM solution for PPM Center for the first time on a Linux system. It includes instructions for deploying Vertica for PPM Content Pack 1.0.

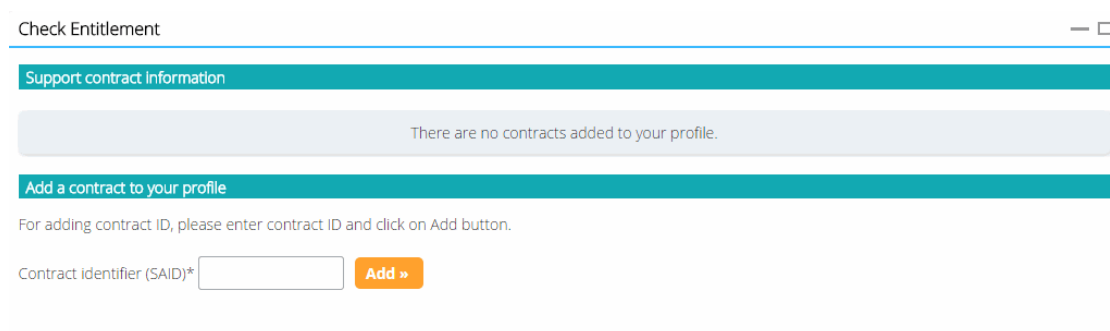
Note: Vertica for PPM Content Pack 1.0 can only be deployed on the Linux system.

Obtaining Installation Bundle of Vertica for PPM Content Pack 1.0

To obtain the installation bundle of Vertica for PPM Content Pack 1.0, follow these steps:

1. Go to the [HP Support Contract information](https://softwaresupport.hp.com/group/softwaresupport/settings) page (https://softwaresupport.hp.com/group/softwaresupport/settings).
2. Sign in to the HP Passport page.

The HP Support Contract information page opens.



3. In the **Contract identifier (SAID)*** box, type your service agreement ID (SAID) and click **Add**.
4. Go to [Operational Reports Content for Project and Portfolio Management - Downloads](http://hpln.hp.com/node/81/contentfiles) page on (hpln.hp.com/node/81/contentfiles).
5. Select **Vertica for PPM CP1.0**.

6. Download the **Vertica_for_PPM_Install_Bundle_1.0.zip** file.
7. Extract the entire contents of **Vertica_for_PPM_Install_Bundle_1.0.zip** to your local drive.

Installing Vertica for PPM Content Pack on Linux Systems

There are three major phases to install Vertica for PPM Content Pack on Linux systems:

- ["Before You Install Vertica for PPM Content Pack" below](#)
- ["Installing Vertica for PPM Content Pack" on page 11](#)
- ["After You Install Vertica for PPM Content Pack" on page 14](#)

Before You Install Vertica for PPM Content Pack

Before you install the Vertica for PPM Content Pack, make sure the following servers are available for use:

- A server with the PPM Oracle database installed

To successfully install the Vertica for PPM Content Pack, you need to have an account of the PPM database with the privilege to read tables in the database.

- Three servers with the HP Vertica database cluster installed

The Vertica Database cluster is used to store data that is extracted from the PPM database. A three-node database cluster is required.

To successfully install the Vertica for PPM Content Pack, you need to either have a **Superuser** account of the Vertica database or an account with the following privileges:

- Create Schema
- Drop Schema
- Create View

- Drop View
- Create Table
- Drop Table
- Update Table
- Select From Table
- Select From View
- View V_Catalog

Make sure the Vertica database server meets the hardware requirements described in the [HP Vertica Hardware Planning Guide](#).

For details about how to install Vertica databases, refer to the [HP Vertica Analytic Database Installation Guide](#).

Note: Besides the system requirements listed in the [HP Vertica Analytic Database Installation Guide](#), you also need to install Java SE Runtime Environment (JRE) version 1.7.0_55 or later on the server.

For information about how to install Java on HP Vertica hosts, refer to [Installing Java on HP Vertica Hosts](#) in the [Extending HP Vertica Guide](#).

- A server where the Vertica for PPM Content Pack can be installed

You need to prepare a server where the Vertica for PPM Content Pack can be installed. This server will be used to provide service of Vertica for PPM.

Make sure the server meet the following system requirements before you install the Vertica for PPM Content Pack.

System requirements

Components	Requirements
Processor	64-bit; 2 cores (at minimum) or 4 cores (recommended)
RAM	8 GB (at minimum) or 16 GB (recommended)

System requirements, continued

Components	Requirements
Hard disk	100 GB with proper maintenance; you may need more disk capacity depending on the size of the source data.
Operating system	Red Hat Enterprise Linux 6 (64-bit)
Java SE Development Kit (JDK) software	JRE version 1.7.0_55 or later

Installing Vertica for PPM Content Pack

Installing Vertica-Data-Warehouse1.0.bin

To install the Vertica for PPM Content Pack, follow these steps:

1. Unzip the Vertica_for_PPM_Install_Bundle_1.0.zip file that is downloaded from the HPLN website, as described in ["Obtaining Installation Bundle of Vertica for PPM Content Pack 1.0" on page 8](#)
2. Copy Vertica-Data-Warehouse1.0.bin to any directory on the server where you want the Vertica for PPM Content Pack to be installed.
3. Go to the directory that contains Vertica-Data-Warehouse1.0.bin and run the following command:

```
sh Vertica-Data-Warehouse1.0.bin
```

4. Type in a directory where you want to install the Vertica for PPM Content Pack, for example, /HOME/PPMVDW, and press **Enter**.

Note: Make sure that the capacity of the directory is 10 GB at minimum and that you have Read and Write access to the directory.

Vertica-Data-Warehouse1.0.bin is installed.

Configuring Vertica for PPM Data Warehouse

After you have installed the data warehouse, you need to configure the Vertica for PPM data warehouse as the system prompts, so as to associate it with the Vertica database cluster and the PPM database.

Detailed steps are listed below.

Step	Action	Note
For Vertica database cluster		
1	Type in the IP address of the Vertica database server	Only IPv4 addresses are supported.
2	Type in the port number of the Vertica database	
3	Type in the Vertica database name	
4	Type in the user name of the Vertica database	
5	Type in the password of Vertica database	
6	Provide a name for the schema that contains metadata	Type in a meaningful name, for example, VDWMETADATA, for the schema. The following tables are generated in the schema after installation: <ul style="list-style-type: none"> • CONTENT_PACK • ETL_METADATA • ETL_STREAM See the <i>PPM Center 9.30 Data Model Guide</i> for details about this tables.
7	Provide a name for the schema that contains management tables	Type in a meaningful name, for example, VDWMANAGING, for the schema. The following tables are generated in the schema after installation: <ul style="list-style-type: none"> • DATA_SOURCE_CDC_STAMP • DW_CONFIG • ETL_GENERATED_ARTIFACT • SOURCE_PRODUCT_CONFIG • SOURCE_PRODUCT_CONN_PARAMETERS • TIMEZONE_INFO See the <i>PPM Center 9.30 Data Model Guide</i> for details about these tables.
8	Provide a name for the schema that contains staging tables	Type in a meaningful name, for example, VDWSTAGING, for the schema.
9	Provide a name for the schema that contains target data and tables for reporting	Type in a meaningful name, for example, VDWTARGET, for the schema.

Step	Action	Note
For Vertica for PPM data warehouse		
10	Type in the timezone of the Vertica data warehouse	By default, the timezone is UTC. To use the default timezone, press Enter .
11	Type in the start date of the Vertica data warehouse	The format is YYYYMMDD; for example, 20141107.
12	Type in the end date of the Vertica data warehouse	The format is YYYYMMDD; for example, 20141107.
For the PPM instance		
13	Provide the PPM instance with a name	Provide the PPM instance with a meaningful name. This name will be used when the <code>instancename</code> parameter is needed.
14	Type in the IP address of the PPM database instance	Only IPv4 addresses are supported.
15	Type in the port number of the PPM database instance	
16	Type in the PPM database instance name	
17	Type in the schema name of the PPM database instance	
18	Type in the user name of the PPM database instance	
19	Type in the password of the PPM database instance	
20	Type in the timezone of the PPM database instance	By default, the timezone is UTC. To use the default timezone, press Enter .
21	Type in the initial load period of the instance	Only positive integers are supported. Specify a time period (the number of months) of which you want the data to be loaded from the PPM database instance. For example, if you want to extract data in the last two years, type in 24.

Taking VDW_HOME into Effect

To take the VDW_HOME variable into effect, do either of the following after you complete the previous steps:

- Run the following command:

```
source ~/.bash_profile
```

- Log out and log in the system again.

Scheduling ETL with crontab

You also need to schedule the ETL job to run at a certain time by using the crontab command:

```
echo "<mm hh> * * * $VDW_HOME/bin/vdwetljob.sh --cpname PPM --instancename  
<instance_name> " | crontab
```

Replace *<mm hh>* with the time that you want the ETL job to be started, in which, *<mm>* indicates the minute and *<hh>* indicates the hour. For example, *00 01* means 01:00 am.

The following table describes the supported parameters.

Parameter	Mandatory?	Sample Value	Description
instancename	Yes	PPM01	Should be the same when you register the PPM instance
cpname	Yes	PPM	Content pack name

For example, if you want the system to start the ETL job for the PPM01 instance everyday at 1:00 am, run the following command:

```
echo "00 01 * * * $VDW_HOME/bin/vdwetljob.sh --cpname PPM --instancename PPM01" |  
crontab
```

For details about the `vdwetljob.sh` command, see ["Extracting and Loading Data with vdwetljob.sh" on page 23](#)

After You Install Vertica for PPM Content Pack

After you install the Vertica for PPM Content Pack, you also need to install some extended components or patches, and configure the Vertica database cluster and PPM server properly.

["Installing Vertica Extensions on Vertica Database Cluster " on the next page](#)

["Installation and Configuration on the PPM Server" on the next page](#)

Installing Vertica Extensions on Vertica Database Cluster

To enable Vertica for PPM, you need to create the following functions on the Vertica database cluster:

- The BRIDGE_HIERARCHY function by installing VerticaUDx.jar
- The tlm and datadscale functions by installing RFunctions.R

Creating BRIDGE_HIERARCHY

To create the BRIDGE_HIERARCHY function, follow these steps:

Prerequisite: Check the Java version on the clustered Vertica database servers with the following command and make sure the version is 1.7.0_55 or later:

```
java -version
```

1. Copy VerticaUDx.jar from the unzipped package to a directory on the Vertica cluster initiator node. For example, /home/dbadmin/. Make sure you have Read access to that directory.

To install the UDx library, you must copy the JAR file to the initiator node in the Vertica cluster. Then connect to the node to execute the CREATE LIBRARY statement.

For more information about how to install the UDx library on Vertica cluster, refer to [Developing User Defined Functions in Java](#) in the [Extending HP Vertica Guide](#).

2. On the Vertica client, open the vsql client or any other administration tools that can run SQL commands.
3. Specify the directory that Java is installed in the Vertica database with the following SQL command:

```
SELECT SET_CONFIG_PARAMETER('JavaBinaryForUDx','<JAVA_HOME>');
```

For example, if Java is installed at /usr/bin/java, the command should be:

```
SELECT SET_CONFIG_PARAMETER('JavaBinaryForUDx','/usr/bin/java');
```

4. Create the BRIDGE_HIERARCHY function with the following commands:

```
CREATE OR REPLACE LIBRARY JavaLib AS '<UDx_directory>' LANGUAGE 'JAVA';
```

```
CREATE OR REPLACE SOURCE BRIDGE_HIERARCHY AS LANGUAGE 'JAVA' NAME  
'com.hp.ppm.bridge.BridgeSourceFactory' LIBRARY JavaLib;
```

Replace `<UDx_directory>` with the directory where `VerticaUDx.jar` is located. In this example, the command should be:

```
CREATE OR REPLACE LIBRARY JavaLib AS '/home/dbadmin/VerticaUDx.jar' LANGUAGE 'JAVA';
```

Creating `t1m` and `datascale`

To create the `t1m` and `datascale` functions, follow these steps:

Prerequisite: To use R language with Vertica, you need to install the RPM (or Debian .deb) R language package that matches your server version.

Note: You must install the R Language Pack on each node in the cluster. The HP Vertica R Language package must be the only R Language package installed on the node. For detailed information, refer to [Installing/Upgrading the R Language Pack for HP Vertica](#) in the [Extending HP Vertica Guide](#).

1. Copy `RFunctions.R` from the unzipped package to any directory on a Vertica cluster initiator node. For example, `/home/dbadmin/`. Make sure you have Read access to that directory.
2. On the Vertica client, open the `vsq1` client or any other administration tools that can run SQL commands.
3. Create the `t1m` and `datadscale` functions with the following commands:

```
CREATE OR REPLACE LIBRARY rLib AS '<RFunctions.R_directory>' LANGUAGE 'R';  
CREATE OR REPLACE TRANSFORM FUNCTION t1m AS LANGUAGE 'R' NAME 't1mFactory'  
LIBRARY rLib;  
CREATE OR REPLACE FUNCTION datascale AS LANGUAGE 'R' NAME 'datascaleFactory'  
LIBRARY rLib;
```

Replace `<RFunctions.R_directory>` with the directory where `RFunctions.R` is located. In this example, the command should be:

```
CREATE OR REPLACE LIBRARY rLib AS '/home/dbadmin/RFunctions.R' LANGUAGE 'R';
```

Installation and Configuration on the PPM Server

You need to perform tasks described in this topic so that the PPM server can leverage the Vertica for PPM function.

Installing the Vertica for PPM Patch

To install the Vertica for PPM patch on PPM Center, follow these steps:

1. Copy `930-hotfix-PPMVerticaReporting.jar` from the unzipped package to the PPM server (under `<PPM_Home>`).
2. Under the `<PPM_HOME>/bin` directory of the PPM server, run the following command:

```
sh kDeploy.sh -hotfix 930-hotfix-PPMVerticaReporting.jar
```

For more information about the `kDeploy.sh` script, refer to "Appendix B" of the *PPM Center 9.30 Installation and Administration Guide*.

Note: You can install the patch only when the PPM server is stopped. For information about how to start and stop the PPM server, see the "Starting and Stopping the PPM Server" section in the *PPM Center 9.30 Installation and Administration Guide*.

Configuring `server.xml`

To leverage the Vertica for PPM Excel reports from PPM Center, add the following data resource and resource link into the `server.xml` file in the `<PPM_HOME>/server/<Instance Name>/conf/` folder.

1. Under the `GlobalNamingResources` tag, add the following data source:

```
<Resource maxIdle="10"  
driverClassName="com.vertica.jdbc.Driver" type="javax.sql.DataSource"  
auth="Container" name="VerticaDS" url="jdbc:vertica://<host_  
name>:<port>/<database_name>?search_path=<target_schema>,<staging_schema>"  
username="<username>" password="<password>" maxActive="60"  
validationQuery="select 1 from dual" maxWait="180000"  
minEvictableIdleTimeMillis="3600000"/>
```

Replace variables as follow:

- `<host_name>`: Vertica database host name
- `<port>`: Vertica database port

- `<database_name>`: Vertica database name
- `<target_schema>`: Name of the schema that contains target tables
- `<staging_schema>`: Name of the schema that contains staging tables
- `<username>`: Username of the Vertica database
- `<password>`: Password of the Vertica database

The following is an example:

```
<Resource maxIdle="10" driverClassName="com.vertica.jdbc.Driver"
type="javax.sql.DataSource" auth="Container" name="VerticaDS"
url="jdbc:vertica://16.186.75.16:5433/PPM?search_path=vdwtarget,vdwstaging"
username="dbadmin" password="password" maxActive="60"
validationQuery="select 1 from dual" maxWait="180000"
minEvictableIdleTimeMillis="3600000"/>
```

2. Under the `docBase="itg.war"` context tag, add the following resource link:

```
<ResourceLink type="javax.sql.DataSource" name="VerticaDS" global="VerticaDS"/>
```

For example:

```
<Context docBase="itg.war" path="/itg" antiJARLocking="true">
  <Listener className="com.mercury.itg.core.debug.monitor.PPMTomcatMonitor"/>
  <ResourceLink type="javax.sql.DataSource" name="ItgDS" global="ItgDS"/>
  <!--DS_LINK_POSITION_BEGIN-->
  <ResourceLink type="javax.sql.DataSource" name="VerticaDS" global="VerticaDS"/>
  <!--DS_LINK_POSITION_END-->
</Context>
```

3. Under the `docBase="dashboard.war"` context tag, also add the following resource link:

```
<ResourceLink type="javax.sql.DataSource" name="VerticaDS" global="VerticaDS"/>
```

For example:

```
<Context docBase="dashboard.war" path="/dashboard" antiJARLocking="true">
  <Listener className="com.mercury.itg.core.debug.monitor.PPMTomcatMonitor"/>
  <ResourceLink type="javax.sql.DataSource" name="ItgDS" global="ItgDS"/>
  <!--DS_LINK_POSITION2_BEGIN-->
  <ResourceLink type="javax.sql.DataSource" name="VerticaDS" global="VerticaDS"/>
  <!--DS_LINK_POSITION2_END-->
</Context>
```

4. Save the changes.
5. Go to the `<PPM_HOME>/bin` directory and restart the PPM server with the following command:

```
sh kStop.sh -now
```

```
sh kStart.sh
```

Chapter 3: Administration Tasks

As an administrator, you need to perform the tasks described in this chapter when you are working with Vertica for PPM.

- ["Deploying Content Pack with ContentManager.sh" below](#)
- ["Extracting Data with ExtractorEngine.sh" on the next page](#)
- ["Processing ETL with FlowEngine.sh" on page 22](#)
- ["Registering PPM Instances with InstanceRegister.sh" on page 24](#)
- ["Customizing ETL with ArtifactRegister.sh" on page 25](#)

Deploying Content Pack with ContentManager.sh

To deploy the specified content pack, use the `ContentManager.sh` command. All content pack should be located at `<VDW_HOME>/Content` on the vertica for PPM platform.

The OOTB content pack (including TARGET and PPM) will be deployed during installation automatically. You might need to refresh the content pack if you have a later version or if you create a customized content pack.

The log file of this command is located at `<VDW_HOME>/logs/ContentManager.log`.

The following table describes the supported parameters.

Parameter	Mandatory?	Sample Value	Description
instruction	Yes	install	Fully installs the content
		refresh	Updates the existing content
cpname	Yes	PPM; TARGET	The content pack name
help	No		Prints out the help message

For example, if you want to install the PPM content pack, run the following command:

```
sh ContentManager.sh --cpname PPM --instruction install
```

Extracting Data with `ExtractorEngine.sh`

To extract data from the PPM Oracle instance and dump data to flat files, use the `ExtractorEngine.sh` command.

You do not need to run the `ExtractorEngine.sh` command on a daily basis. You can use this command together with `FlowEngine.sh` to execute the ETL job manually for troubleshooting.

The log file of this command is under `<VDW_HOME>/logs/ ExtractorEngine.log`.

The following table describes the supported parameters.

Parameter	Mandatory?	Sample Value	Description
<code>instancename</code>	Yes	<code>ppm01</code>	Should be the same when you register the PPM instance
<code>forceinitialload</code>	No	<code>true/false</code>	Executes initial load manually. This dumps all records from the PPM Oracle instance to flat files. The initial load duration setup is also applied, which means records that are created before the initial load will not be dumped.
<code>pagesize</code>	No	<code>20000</code>	Specifies the page size when the extractor issues SQL queries to the PPM database instance. Use this parameter only when there is critical performance downgrade on the PPM Oracle instance. The default value is 50000. The system applies the default value if no value is specified.
<code>parallelism</code>	No	<code>200</code>	Specifies the thread pool size that the extractor has to extract data from PPM in parallel. The default value is 20. The system will use the default value if no value is specified.

Parameter	Mandatory?	Sample Value	Description
cpname	Yes; one of the three parameters should be used	PPM	Content pack name. Recommended. Use to extract all flat files that the ETL job needs.
streamname		PPM_PERSON_STREAM	ETL stream name. Same as the stream name defined in the stream JSON file. Use to extract all flat files needed for this stream.
entityname		PERSON	Source entity name. Same as the entity name defined in the source JSON file. Use to extract the flat file of a specified entity
help	No		Prints out the help message.

For example, to extract data from the PPM01 instance, run the following command:

```
sh ExtractorEngine.sh --cpname PPM --instancename PPM01
```

Processing ETL with FlowEngine.sh

Use the `FlowEngine.sh` command to process the ETL tasks. This command loads data to the Vertica database from the flat files that the extractor engine generated.

You do not need to run the `FlowEngine.sh` command on a daily basis. You can use this command together with `ExtractorEngine.sh` to execute ETL job manually for troubleshooting.

The log file of this command is located at `<VDW_HOME>/logs/ FlowEngine.log`.

The following table describes the supported parameters.

Parameter	Mandatory?	Sample Value	Description
instancename	Yes	ppm01	Should be the same when you register the PPM instance
streamname	Yes	PPM_PERSON_STREAM	ETL stream name
batch	Yes	1	The batch ID from the ExtractorEngine output
help	No		Prints out the help message

If you want to process ETL for the PPM01 instance, run the following command:

```
sh FlowEngine.sh --streamname PPM_PERSON_STREAM --instancename PPM01 --batch 1
```

Extracting and Loading Data with `vdwetljob.sh`

The `vdwetljob.sh` command combines the functions of the `ExtracotrEngine.sh` and `FlowEngine.sh` commands. If you want to extract all data from the PPM instance that you have registered and process ETL for the entire content pack, you can use the `vdwetljob.sh` command.

It is convenient to use the `vdwetljob.sh` command together with the `crontab` command, so that you do not need to acquire the batch ID from the Extractor Engine manually and can process ETL regularly. For details about the `crontab` command, see [Scheduling ETL with crontab](#).

The following table describes the supported parameters.

Parameter	Mandatory?	Sample Value	Description
<code>instancename</code>	Yes	PPM01	Should be the same as the PPM instance name when you register the PPM instance.
<code>forceinitialload</code>	No	True /false	Execute initial load manually. This dumps all records from PPM Oracle instance to flat files again, just as it did during the initial load. The initial load duration setup is also applied, which means records that are created before the initial load will not be dumped.
<code>pagesize</code>	No	20000	Specifies the page size when the extractor issues SQL queries to the PPM database instance. Use this parameter only when there is critical performance downgrade on the PPM Oracle instance. The default value is 50000. The system applies the default value if no value is specified.
<code>parallelism</code>	No	200	Specifies the thread pool size that the extractor has to extract data from PPM in parallel. The default value is 20. The system will use the default value if no value is specified.
<code>cpname</code>	Yes	PPM	Content pack name. Recommended. Use to extract all flat files that the ETL job needs.

Registering PPM Instances with InstanceRegister.sh

To register PPM instances, use the `InstanceRegister.sh` command.

Vertica for PPM supports multiple PPM instances. During installation, you need to set up only one PPM instance. Later, if you want to connect to more PPM instances, you can use this command.

After registering new PPM instances, you also need to schedule ETL jobs for the new PPM instances with the `crontab` command. For detailed steps, see [Scheduling ETL with crontab](#).

Note: Keep some buffer when setting the ETL schedule with the `crontab` command, so as to ensure that no ETL jobs for two PPM instances are run in parallel.

The log file of the `InstanceRegister.sh` command is under `<VDW_HOME>/logs/ Installation.log`.

The following table describes the supported parameters.

Parameter	Mandatory?	Sample Value	Description
<code>instancename</code>	Yes	<code>ppm01</code>	Should be the same when you register the PPM instance
<code>ip</code>	Yes	<code>16.186.77.109</code>	IP address of the PPM Oracle instance
<code>port</code>	Yes	<code>1521</code>	The port of PPM database server
<code>database</code>	Yes	<code>DBNAME</code>	PPM Oracle database instance name
<code>schema</code>	Yes	<code>SCHEMANAME</code>	PPM Oracle database schema name
<code>user</code>	Yes	<code>username</code>	User name for the PPM Oracle instance
<code>password</code>	Yes	<code>password</code>	Password for the PPM Oracle Instance
<code>initialloadperiod</code>	Yes	<code>1</code>	Number of months that you want to extract data from the PPM Oracle database
<code>timezone</code>	No	<code>Asia/Shanghai</code>	Default value is UTC
<code>help</code>	No		Prints out the help message

For example, to register the a PPM instance to the Vertica for PPM data warehouse with the name `PPM02`, use the following command:


```
sh InstanceRegister.sh --instancename PPM02 --ip 16.157.132.52 --port 1521 --
database PPMSH13 --schema AIG_PPM_PHY --user AIG_PPM_PHY --password AIG_PPM_PHY --
initialloadperiod 12
```

Customizing ETL with `ArtifactRegister.sh`

Use the `ArtifactRegister.sh` command to customize the ETL logic.

The ETL process contains 10 steps. Most of them are generated by the system automatically. If you want to change the ETL behavior, for example, adding more data clean rules, you might want to override the ETL logic with your own SQL commands.

Refer to *Vertica for PPM Reporting Customization Guide for Content Pack 1.0* for more information about how to override the ETL logic.

The following table describes the supported parameters.

Parameter	Mandatory?	Sample Value	Description
streamname	Yes	PPM_PERSON_STREAM	The name of the stream in which the ETL rules need to be customized
etlstep	Yes	EXT SSI TSNP XREF MSI XFR KEYLOOKUP TARGET HIERARCHY POSTTARGET	ETL step that needs to be customized
artifactfile	Yes	/temp/XREF.SQL	SQL file that contains customized ETL logic
register	No	CUSTOMIZATION	All non-HP provided SQL commands should be registered as CUSTOMIZATION
help	No		Help message

For example, to customize the ETL logic of the `PPM_DATE_STREAM` stream for the `KEYLOOKUP` step, use the following command:

```
sh $VDW_HOME/bin/ArtifactRegister.sh --streamname PPM_DATE_STREAM --etlstep  
KEYLOOKUP --artifactfile $VDW_HOME/Content/TARGET.cp/scripts/SQL/DATE/KEYLOOKUP.SQL  
--register CUSTOMIZATION
```


Chapter 4: Troubleshooting

Read this section when you encounter problems with the ETL process.

Unable to Pass System Check

Error

```
System check didn't pass, ETL process won't be started.  
1 stream contained by this ETL is still running in other process.  
Failed to start ETL, please read the information above.
```

Description

The error occurs when the ETL process was interrupted accidentally.

Resolution

To solve this problem, follow these steps:

1. To configure the environment variable for DERBY_HOME, run the following commands on the Linux system:

```
export DERBY_HOME=%VDW_HOME/Derby/db-derby-10.11.1.1-bin
```

```
. $DERBY_HOME/bin/setEmbeddedCP
```

2. Run the following commands sequentially so that the derby repository can be accessed:

- a. Connect to the derby database:

```
java -Dij.protocol=jdbc:derby: org.apache.derby.tools.ij
```

```
connect '<VDW_HOME>/Derby /SBRepo;user=dbadmin;password=password';
```

<VDW_HOME> is the directory where you have the Vertica for PPM data warehouse installed.

- b. Make sure that the ETL running state is correct:

```
select p.STRING_VAL from batch_job_execution e, batch_job_execution_params p  
where e.job_execution_id=p.job_execution_id and e.status in ('STARTING',  
'STARTED', 'STOPPING') and p.KEY_NAME = ' <STREAMNAME>';
```

<STREAMNAME> is the name of the ETL stream that has this error.

c. Update running state:

```
update batch_job_execution set status=' ABANDONED' WHERE STATUS IN ('STARTING', 'STARTED', 'STOPPING');
```

d. Disconnect and exit:

```
ij> disconnect;
```

```
ij> exit;
```

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Feedback on Vertica for PPM Administrator's Guide (Project and Portfolio Management Center Content Pack 1.0)

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to HPSW-BTO-PPM-SHIE@hp.com.

We appreciate your feedback!