

**opentext™**

# OpenText™ Project and Portfolio Management (PPM)

Software version: Content Pack 1.0

## Vertica for PPM Administrator Guide

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# Introduction

This guide provides information about how to deploy the Vertica for OpenText™ Project and Portfolio Management Center (PPM). It is written for OpenText PPM administrators, configurators, and DBAs who are knowledgeable about OpenText PPM. Readers are assumed to be moderately knowledgeable about enterprise application development and skilled in enterprise system and database administration.

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

*You can refer to the 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.

# Deploying Vertica for PPM

This section provides the information you need to implement the Vertica for PPM solution for OpenText PPM 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 [Operational Reports Content for Project and Portfolio Management - Downloads](#) page.
2. Select **Vertica for PPM, Version 1.0**.
3. Download the **Vertica\_for\_PPM\_Install\_Bundle\_1.0.zip** file.
4. Extract the entire contents of **Vertica\_for\_PPM\_Install\_Bundle\_1.0.zip** to your local drive.

## Install 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" on the next page](#)
- ["Install Vertica for PPM Content Pack" on page 7](#)
- ["After You Install Vertica for PPM Content Pack" on page 11](#)

## 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 meet the hardware requirements.

For details about Vertica database hardware requirements and how to install Vertica databases, see the Vertica documentation.

**Note:** Besides the required system requirements, 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 Vertica hosts, refer to the Vertica documentation.

- 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)
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

## Install 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 Marketplace, as described in ["Obtaining Installation Bundle of Vertica for PPM Content Pack 1.0" on page 5](#)
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
<b>For Vertica database cluster</b>		
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, <code>VDWMETADATA</code> , for the schema. The following tables are generated in the schema after installation: <ul style="list-style-type: none"> <li>• <code>CONTENT_PACK</code></li> <li>• <code>ETL_METADATA</code></li> <li>• <code>ETL_STREAM</code></li> </ul> See the <i>Data Model Guide</i> for details about this tables.



Step	Action	Note
7	Provide a name for the schema that contains management tables	Type in a meaningful name, for example, <code>VDWMANAGING</code> , for the schema. The following tables are generated in the schema after installation: <ul style="list-style-type: none"> <li>• <code>DATA_SOURCE_CDC_STAMP</code></li> <li>• <code>DW_CONFIG</code></li> <li>• <code>ETL_GENERATED_ARTIFACT</code></li> <li>• <code>SOURCE_PRODUCT_CONFIG</code></li> <li>• <code>SOURCE_PRODUCT_CONN_PARAMETERS</code></li> <li>• <code>TIMEZONE_INFO</code></li> </ul> See the <i>Data Model Guide</i> for details about this tables.
8	Provide a name for the schema that contains staging tables	Type in a meaningful name, for example, <code>VDWSTAGING</code> , 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, <code>VDWTARGET</code> , for the schema.
<b>For Vertica for PPM data warehouse</b>		
10	Type in the timezone of the Vertica data warehouse	By default, the timezone is UTC. To use the default timezone, press <b>Enter</b> .
11	Type in the start date of the Vertica data warehouse	The format is <code>YYYYMMDD</code> ; for example, <code>20141107</code> .
12	Type in the end date of the Vertica data warehouse	The format is <code>YYYYMMDD</code> ; for example, <code>20141107</code> .
<b>For the PPM instance</b>		
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.

Step	Action	Note
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 <b>Enter</b> .
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 19](#)

## 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 page 14](#)

## 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 `t1m` and `datadscale` functions by installing `RFunction.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, see the Vertica documentation.

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 Vertica R Language package must be the only R Language package installed on the node. For detailed information, see the Vertica documentation.

1. Copy `RFunction.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 `vsq` 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 '<RFunction.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 `<RFunction.R_directory>` with the directory where `RFunction.R` is located. In this example, the command should be:

```
CREATE OR REPLACE LIBRARY rLib AS '/home/dbadmin/RFunction.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, follow these steps:

1. Copy `Vertica_For_PPM_Reporting_Content_Pack.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 Vertica_For_PPM_Reporting_Content_Pack.jar
```

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

### Configuring `server.xml`

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

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=schemaname>"
username="<username>" password="<password>" maxActive="60"
validationQuery="select 1 from dual" maxWait="180000"
minEvictableIdleTimeMillis="3600000"/>
```

Replace `<host_name>:<port>/<database_name>?<search_path=schemaname>` with the Vertica database server address, and replace `<username>` and `<password>` with the user name and password of the Vertica database respectively, as shown in the following 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_report"
username="dbadmin" password="password" maxActive="60" validationQuery="select
1 from dual" maxWait="180000" minEvictableIdleTimeMillis="360000"/>
```

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
```

# Administration Tasks

As an administrator, you need to perform tasks described in this section 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 19](#)
- ["Registering PPM Instances with InstanceRegister.sh" on page 21](#)
- ["Customizing ETL with ArtifactRegister.sh" on page 22](#)

## 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.

Parameter	Mandatory?	Sample Value	Description
pagesize	No	20000	<p>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.</p> <p>The default value is 50000. The system applies the default value if no value is specified.</p>
parallelism	No	200	<p>Specifies the thread pool size that the extractor has to extract data from PPM in parallel.</p> <p>The default value is 20. The system will use the default value if no value is specified.</p>
cpname	Yes; one of the three should be used	PPM	<p>Content pack name.</p> <p>Use this parameter is recommended, which can extract all flat files that the ETL job needs.</p>
streamname		PPM_PERSON_STREAM	<p>ETL stream name. Same as the stream name defined in the stream JSON file.</p> <p>The extractor extracts all flat files needed for this stream.</p>
entityname		PERSON	<p>Source entity name. Same as the entity name defined in the source JSON file.</p> <p>The extractor extracts the flat file of a specified source entity.</p>
help	No		Prints out the help message.

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

```
sh ExtractorEngine.sh --cname 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
<code>instancename</code>	Yes	<code>ppm01</code>	Should be the same when you register the PPM instance
<code>streamname</code>	Yes	<code>PPM_PERSON_STREAM</code>	ETL stream name
<code>batch</code>	Yes	<code>1</code>	The batch ID from the ExtractorEngine output
<code>help</code>	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 `ExtractorEngine.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 with 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 what it does 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.

Parameter	Mandatory?	Sample Value	Description
cpname	Yes	PPM	Content pack name.  Use this parameter is recommended, which can 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
instancename	Yes	ppm01	Should be the same when you register the PPM instance
ip	Yes	16.186.77.109	IP address of the PPM Oracle instance

Parameter	Mandatory?	Sample Value	Description
port	Yes	1521	The port of PPM database server
database	Yes	DBNAME	PPM Oracle database instance name
schema	Yes	SCHEMANAME	PPM Oracle database schema name
user	Yes	username	User name for the PPM Oracle instance
password	Yes	password	Password for the PPM Oracle Instance
initialloadperiod	Yes	1	How many months of which you want to extract data from PPM Oracle database
timezone	No	Asia/Shanghai	Default value is UTC
help	No		Prints out the help message

For example, to register the a PPM instance to the Vertica for PPMdata 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 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	ETL stream name
etlstep	Yes	EXT SSI TSNP XREF MSI XFR KEYLOOKUP TARGET HIERARCHY POSTTARGET	ETL step
artifactfile	Yes	/temp/XREF.SQL	SQL file that contains customized ETL logic
register	No	CUSTOMIZATION	All non-HP provided SQL commands shall be registered as CUSTOMIZATION
help	No		Prints put the 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
```

# Troubleshooting

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

## Unable to Pass the 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;create=true;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;
```