

IBM SPSS Collaboration and
Deployment Services Enterprise
View Driver 5 User's Guide



Note: Before using this information and the product it supports, read the general information under Notices on p. 13.

This edition applies to IBM SPSS Collaboration and Deployment Services 5 and to all subsequent releases and modifications until otherwise indicated in new editions.

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Preface

The IBM® SPSS® Collaboration and Deployment Services Enterprise View Driver provides third-party applications access to IBM® SPSS® Collaboration and Deployment Services Enterprise View objects stored in the IBM® SPSS® Collaboration and Deployment Services Repository. This manual documents the installation and configuration on all supported platforms. The tasks associated with everyday use of the analytical facilities of IBM® SPSS® Collaboration and Deployment Services are documented in the IBM® SPSS® Collaboration and Deployment Services Deployment Manager documentation.

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IBM SPSS Collaboration and Deployment Services Enterprise View Driver

IBM® SPSS® Collaboration and Deployment Services Enterprise View Driver provides third-party applications access to IBM® SPSS® Collaboration and Deployment Services Enterprise View objects stored in the IBM® SPSS® Collaboration and Deployment Services Repository. The drivers operate similarly to conventional database drivers with the exception that they do not directly query a physical data source but rather reference a Data Provider Definition and Application View. An Application View provides a defined table and column structure; a Data Provider Definition maps the logical Application View tables and columns to those of a physical data source.

Refer to the *IBM® SPSS® Collaboration and Deployment Services Deployment Manager User's Guide* for information on working with IBM SPSS Collaboration and Deployment Services Enterprise View objects.

IBM SPSS Collaboration and Deployment Services Enterprise View Driver provides drivers for JDBC and ODBC access.

Requirements

IBM® SPSS® Collaboration and Deployment Services Enterprise View Driver can be installed on the following operating systems.

Windows

- AIX 7.1
- AIX 6.1
- IBM i v7r1
- IBM i v6r1
- SLES 10.x (64-bit only, on both x64 and s390x processors)
- SLES 11.x (64-bit only, on both x64 and s390x processors)
- RHEL 6.x (64-bit only, on both x64 and s390x processors)
- RHEL 5.x (32-bit on x86, 32 and 64-bit on both x64 and s390x processors)
- HP-UX 11i v3 (64-bit only, on Itanium processor)
- Solaris 10 (64-bit only on SPARC processor)
- Windows Server 2008 R2 64-bit

- Windows Server 2008 32-bit
- Windows Server 2008 64-bit
- Windows Server Standard 2003 R2 32-bit
- Windows Server Standard 2003 R2 64-bit
- Windows 7 Enterprise x86
- Windows 7 Professional x86
- Windows 7 Enterprise x64 (32-bit code)
- Windows 7 Professional x64 (32-bit code)
- Windows 7 Enterprise x64 (64-bit code)
- Windows 7 Professional x64 (64-bit code)
- Windows Vista Enterprise x86 SP1
- Windows Vista Business x86 SP1
- Windows Vista Enterprise x64 (32-bit code) SP1
- Windows Vista Business x64 (32-bit code) SP1
- Windows Vista Enterprise x64 (64-bit code) SP1
- Windows Vista Business x64 (64-bit code) SP1
- Windows XP Pro x86 SP3
- Windows XP Pro x64 (64-bit code) SP3
- Windows XP Pro x64 (32-bit code) SP3

The driver requires approximately 100MB of available hard drive space, regardless of the operating system.

Installing the Windows drivers

To install the Windows drivers, first download and install the latest Windows Data Access Pack from <http://www.spss.com/drivers/client.htm>. For the purposes of examples, these instructions assume that the Data Access Pack is installed in the default installation directory C:\Program Files\SPSSOEM. Refer to the Data Access Pack documentation for installation information.

After installing the Data Access Pack, install the IBM® SPSS® Collaboration and Deployment Services Enterprise View Driver using one of the following methods:

- ▶ To install from the installation media, launch the executable appropriate to the operating system in the /EV directory of Disk 2. The installer has two modes: GUI and console. The installer uses GUI mode by default, but you can install via the console by adding the -i console parameter to the installer command line. For example:

```
setupWindows64-amd64.exe -i console
```

- ▶ IBM® SPSS® Collaboration and Deployment Services Repository can be configured to enable IBM SPSS Collaboration and Deployment Services Enterprise View Driver installation through a Web browser. For more information, see the repository installation and configuration guide. Once repository has been configured, use the following URL, where the value of `servername` is the

IBM SPSS Collaboration and Deployment Services Repository server name and port is the IBM® SPSS® Collaboration and Deployment Services server port number:

`http://<servername>:<port>/EVDriverInstaller`

Follow the installation wizard prompts to complete the driver installation.

Configuring the driver with Microsoft ODBC Data Source Administrator

Some applications, such as IBM® SPSS® Modeler, are natively aware of IBM® SPSS® Collaboration and Deployment Services Enterprise View and can work with its items directly. However, if your application is not natively aware of IBM SPSS Collaboration and Deployment Services Enterprise View, you need to configure the driver via the Microsoft ODBC Data Source Administrator. The following configuration settings apply to the Microsoft ODBC Data source Administrator IBM® SPSS® Collaboration and Deployment Services Enterprise View Driver implementation.

Data Source Name: Provide an appropriate data source name. An ODBC application will use the data source name when making connection requests to the data source. This is the name that will display in the ODBC Data Source Administrator User DSN section.

Description: Enter a data source description (optional).

Host: Enter either the name or IP address of the IBM® SPSS® Collaboration and Deployment Services server to which you want to connect.

Port: Enter the IBM SPSS Collaboration and Deployment Services server port number.

Connect to IBM SPSS Collaboration and Deployment Services Repository: Enable this option to specify a IBM® SPSS® Collaboration and Deployment Services Repository username and password and retrieve IBM SPSS Collaboration and Deployment Services Enterprise View object information (accessible after clicking Next).

Username: Enter a IBM SPSS Collaboration and Deployment Services Repository username. The username must have read access to IBM SPSS Collaboration and Deployment Services Enterprise View objects in the repository.

Password: Enter a password for the specified username.

- ▶ Click Next to select IBM SPSS Collaboration and Deployment Services Enterprise View specific object information:

Application View: Select an appropriate Application View from the list of all views that currently exist in the repository. An Application View provides a means to constrain the information displayed to a user in a tool or application, and allows a system administrator or data expert to view the data from the perspective of an application.

Environment: The drop-down field lists all valid environments. The environment setting provides a means of identifying which particular columns should be associated with defined business segments. For example, when Analytic is selected, only those Application View columns defined as Analytic are returned. The setting also filters the Data Provider Definition options presented in the **Data Provider** field to only those supported in the selected environment.

Data Provider: Select the Data Provider Definition from the list of all currently in the repository. The Data Provider Definition manages the data at each stage by mapping logical column definitions in the Application View to physical table columns in the customer database. The Data Provider Definition also specifies the data source and credentials used to access data.

Label: The drop-down field lists all defined labels for the specified Data Provider Definition. Labels help identify specific IBM SPSS Collaboration and Deployment Services Enterprise View object versions. For example, there may be two versions for a particular Enterprise View, Application View, and Data Provider Definition. By using labels, you could specify the label TEST for the version used in the development environment and the label PRODUCTION for the version used in the production environment. The specified label must exist for all IBM SPSS Collaboration and Deployment Services Enterprise View objects.

Refer to the IBM® SPSS® Collaboration and Deployment Services Deployment Manager documentation for information on working with IBM SPSS Collaboration and Deployment Services Enterprise View objects.

Third-party data sources

When configuring third-party data sources, such as SQL Native Client, the following requirements should be followed in order to prevent potential problems with the IBM® SPSS® Collaboration and Deployment Services Enterprise View Driver.

- For ODBC data sources, the referenced ODBC Data Source Names (DSN) must exist on the same system on which the IBM SPSS Collaboration and Deployment Services Enterprise View Driver is installed.
- When configuring DSNs, regardless of type (Oracle, SQL Server, DB2, and so on), ensure the **quoted identifier** option is enabled (if available).
- When configuring DSNs, regardless of type (Oracle, SQL Server, DB2, and so on), you must provide the appropriate default database information.

Uninstalling the Windows drivers

To uninstall the Windows IBM® SPSS® Collaboration and Deployment Services Enterprise View Driver:

- ▶ From the Windows Control Panel, select Add or Remove Programs.
- ▶ Select the IBM SPSS Collaboration and Deployment Services Enterprise View Driver entry and click Change/Remove.
- ▶ Click Uninstall from the wizard dialog to complete the uninstallation.

Installing the UNIX drivers

To install the UNIX drivers, first download and install the latest UNIX Data Access Pack from <http://www.spss.com/drivers/client.htm>. You can also install the Data Access Pack from the installation media. For the purposes of examples, these instructions assume that the Data Access Pack is installed in the default installation directory `/opt/odbc/`. Refer to the Data Access Pack documentation for installation information. Note that you must have **superuser** authority to install drivers.

After installing the Data Access Pack, install the IBM® SPSS® Collaboration and Deployment Services Enterprise View Driver either from the repository server of the installation media. To install from a server, use the following URL, where the value of `servername` is the IBM® SPSS® Collaboration and Deployment Services server name and `port` is the IBM SPSS Collaboration and Deployment Services server port number:

```
http://<servername>:<port>/pevdriverinstall
```

After downloading the IBM SPSS Collaboration and Deployment Services Enterprise View Driver from the server, you should verify that the driver file is executable. Check the file's executable status via the user interface or use the **CHMOD** command from the UNIX shell.

Alternatively, using Disk 2 of IBM SPSS Collaboration and Deployment Services installation media, mount the optical drive using a command appropriate for your system as follows:

- In a Linux environment, enter the following command, where `<device>` is the device name assigned to your optical drive:

```
# mount -r -t iso9660 /dev/<device> /mnt/cdrom
```

- In an HP-UX environment enter the following:

```
# mount -f cdrfs <device path> <mount point>
```

- In an AIX environment enter the following:

```
# mount -rv cdrfs <device path> <mount point>
```

- Solaris will automatically mount the optical drive.

The installation executables can be found in the `/EV` directory of Disk 2.

The installer has two modes: GUI and console. The installer uses GUI mode by default, but you can install via the console by adding the `-i console` parameter to the installer command line. For example, for 32-bit Linux, the command is the following:

```
./setupLinux32-x86.bin -i console
```

Follow the installation wizard prompts to complete the driver installation. Take note of the location as you will need to manually define the path while configuring the driver. If the installation path includes spaces (as the default path does) the spaces will either need to be escaped or the entire path quoted when it is used.

Configuring the UNIX ODBC driver

Configuration of the UNIX ODBC driver involves the following two general steps:

- ▶ Configuring the IBM® SPSS® Collaboration and Deployment Services Enterprise View Driver
- ▶ Configuring native data sources

Configuring the IBM SPSS Collaboration and Deployment Services Enterprise View Driver

After the installation is complete, there are a few manual steps that are required to set the environment and register the IBM® SPSS® Collaboration and Deployment Services Enterprise View Driver with the driver manager.

- ▶ Setting the environment follows a similar process to that of the Data Access Pack configuration. This involves modifying the appropriate system or user profile to include a call to ‘source’ the `pev` setup script (located in the IBM SPSS Collaboration and Deployment Services Enterprise View Driver installation directory). Two setup scripts are provided:
 - `pev.sh` – sh, ash, bash, ksh, zsh (Bourne)
 - `pev.csh` – csh, tcsh (C shell)

Sourcing the `pev.sh` setup script is the same as sourcing the Data Access Pack’s `odbc.sh` setup script (added during the installation of the Data Access Pack). Refer to the appropriate DataDirect™ documentation for more information (<http://www.spss.com/drivers/merant.htm>).

Note: You must source the `pev.sh` script in your IBM® SPSS® Modeler startup script. The `odbc.sh` script must also be sourced, and may already exist in the SPSS Modeler startup script. Add the call to source the `pev.sh` script after the call to source the `odbc.sh` script. Refer to the *SPSS Modeler ODBC Installation Guide for UNIX* for more information.

- To verify that `pev.sh` is sourced correctly, source the script from a new shell session and type `set` for Bourne shells or `env` for C shells. In the list of environment variables that appear, look for the one of the following variables.

For Linux, Solaris and HP-UX: `LD_LIBRARY_PATH`

For AIX: `LIBPATH`

The value for this variable should include references to your IBM SPSS Collaboration and Deployment Services Enterprise View Driver installation directory. If it does not include a reference, you may need to edit the shell script to fit your particular configuration.

The shell script attempts to locate an acceptable Java JNI environment. It searches the standard Java installation directories and configures the environment. The detection may be time consuming. To reduce the time needed to source the shell script, you can set the `PEV_SHARED_LIBRARY_PATH` variable in the script to bypass the search. It is strongly recommended you copy this value from a previous script run. In addition to the IBM SPSS Collaboration and Deployment Services Enterprise View Driver installation directory, the script must include the Java library path necessary for performing JNI calls.

- ▶ Register the IBM SPSS Collaboration and Deployment Services Enterprise View Driver with the DataDirect driver manager by editing the `odbcinst.ini` file in an editor of your choice. By default the file is in the Data Access Pack base directory (`/opt/odbc/`). If the Data Access Pack was not installed to the default location, you can verify where the `odbcinst.ini` file is located by checking the `ODBCINST` environment variable.
 - Define where the new driver is installed by adding the following line to the `odbcinst.ini` file's [ODBC Drivers] section:

```
IBM SPSS Collaboration and Deployment Services Enterprise View Driver=Installed
```

- Provide the driver manager with information regarding the IBM SPSS Collaboration and Deployment Services Enterprise View Driver. At the end of the `odbcinst.ini` file add the following section:

```
[IBM SPSS Collaboration and Deployment Services Enterprise View Driver]
Driver=libpev-driver.so
APILevel=1
ConnectFunctions=YYY
Driver=libpev-driver.so
DriverODBCVer=3.52
FileUsage=0
SQLLevel=1
```

- ▶ Save your changes and exit the editor. At this point, the IBM SPSS Collaboration and Deployment Services Enterprise View Driver is fully installed and registered with the driver manager. You can verify the installation using the Data Direct utility located in the `/opt/odbc/bin` directory (`ivtestlib` on 32-bit installations, `ddtestlib` on 64-bit installations). From the command line, type `/opt/odbc/bin/ivtestlib libpev-driver.so` and press Enter. If this test fails, check that ODBC and IBM® SPSS® Collaboration and Deployment Services Enterprise View scripts are 'sourced' correctly in your shell environment

Configuring native data sources

Native data sources need to be created to use the IBM® SPSS® Collaboration and Deployment Services Enterprise View driver. Data sources are added to the `odbc.ini` file located in the Data Access Pack base directory (`/opt/odbc/`). When the file is installed with the Data Access Pack, it is populated with example data sources for each of the available drivers. These are the templates that need to be followed when creating a new data source. For example, here is an entry for an MS SQL Server data source:

```
[SQL Server Wire Protocol]
Driver=/qatest/ODBC/SDAP_6.10.000.6_March2012/lib/XEsqsls25.so
Description=IBM Corp. 6.1 SQL Server Wire Protocol
AlternateServers=
AlwaysReportTriggerResults=0
AnsiNPW=1
ApplicationName=
ApplicationUsingThreads=1
AuthenticationMethod=1
```

```
BulkBinaryThreshold=32
BulkCharacterThreshold=-1
BulkLoadBatchSize=1024
BulkLoadOptions=2
ConnectionReset=0
ConnectionRetryCount=0
ConnectionRetryDelay=3
Database=<database_name>
EnableBulkLoad=0
EnableQuotedIdentifiers=0
EncryptionMethod=0
FailoverGranularity=0
FailoverMode=0
FailoverPreconnect=0
FetchTSWTZasTimestamp=0
FetchTWFSasTime=1
GSSClient=native
HostName=<SQL_Server_host>
HostNameInCertificate=
InitializationString=
Language=
LoadBalanceTimeout=0
LoadBalancing=0
LoginTimeout=15
LogonID=
MaxPoolSize=100
MinPoolSize=0
PacketSize=-1
Password=
Pooling=0
PortNumber=<SQL_Server_server_port>
QueryTimeout=0
ReportCodePageConversionErrors=0
SnapshotSerializable=0
TrustStore=
TrustStorePassword=
ValidateServerCertificate=1
WorkStationID=
XML Describe Type=-10
```

There are two steps to defining a data source.

- ▶ The first step is to define the name and description of the new data source. This is done at the top of the file under the heading [ODBC Data Sources]. Add the new data source in the form <DSN>=<description>. DSN is the name used by external applications to reference the data source. description can help you identify and differentiate between various data sources.
- ▶ The second step is to configure the driver specific settings by adding a new section in the `odbc.ini` file. The section heading must match the data source name that you chose when defining the data source at the top of the file. The only system-required entry in the configuration section is the driver location. By convention this is the first entry in the section and is of the form

Driver=<driver_location>. The remaining entries are driver specific and may, or may not, be required.

Once all native data sources are defined, you are ready to use the IBM® SPSS® Collaboration and Deployment Services Enterprise View Driver.

If the data source will be used with the IBM SPSS Collaboration and Deployment Services Enterprise View Driver, quoted identifiers must be enabled in the native driver. In the above example, the SQL Server driver includes the entry `EnableQuotedIdentifiers=0` (the default value). This entry must be changed to `EnableQuotedIdentifiers=1`. Verify your driver configuration options for this setting, keeping in mind that the entry name may differ depending on the driver type.

Note: The value of the `QEWS` parameter is generated by the system and must not be copied from an existing driver definition.

Uninstalling the UNIX drivers

To uninstall the UNIX IBM® SPSS® Collaboration and Deployment Services Enterprise View Driver:

- ▶ Navigate to the `_uninst` directory located in the IBM SPSS Collaboration and Deployment Services Enterprise View Driver installation directory.
- ▶ Invoke `./uninstall` from the `_uninst` directory
- ▶ After uninstalling the IBM SPSS Collaboration and Deployment Services Enterprise View Driver, you should manually remove the settings added in the [Configuring the IBM SPSS Collaboration and Deployment Services Enterprise View Driver](#) section.

Silent Installation

Silent mode enables the installation without any user interaction. Installation parameters are specified as a properties file. This feature can be used to automate the application installation in large network environments. The installation Disk 2 includes a properties file to enable a silent installation: `/Administration/<product name>/SilentInstallOptions`.

How to use the options file

- ▶ Copy the options file from the media to the file system.
- ▶ Open the copied options file in a text editor.
- ▶ Change the options as needed. Some options require a string value, while others that correspond to choices in the installer can be set to 0 (off) or 1 (on).

To perform a silent installation:

Execute the installation program from the command line with the following switches:

- `-i silent` to set the interface mode to silent
- `-f "<properties file path>"` to specify the properties file

For example, to silently install IBM® SPSS® Collaboration and Deployment Services Enterprise View Driver in a 32-bit Linux environment, issue the following command:

```
setupLinux32-x86.bin -i silent -f "<properties file path>"
```

You can use an absolute or relative properties file path. If no path is specified, the properties file must be located in the same directory as the installation program.

IBM SPSS Collaboration and Deployment Services Enterprise View URL

IBM® SPSS® Collaboration and Deployment Services Enterprise View connection URL parameters are described in the following table.

Table 1-1
URL parameters

Parameter name	Required/Optional	Description
DSN (ODBC only)	Required	Identifies the IBM SPSS Collaboration and Deployment Services Enterprise View as a system ODBC data source.
DRIVER (ODBC only)	Required	Driver name.
PEV.HOST (ODBC only)	Required	IBM® SPSS® Collaboration and Deployment Services Repository host.
PEV.PORT (ODBC only)	Required	The port number for accessing IBM SPSS Collaboration and Deployment Services Repository on the specified host.
UID	Optional	IBM® SPSS® Collaboration and Deployment Services user ID for data source connection. For JDBC, the user ID can also be passed in the driver's connection properties.
PWD	Optional	IBM SPSS Collaboration and Deployment Services user password. For JDBC, the user ID can also be passed in the driver's connection properties.
PEV.PROVIDER	Optional	The security provider used to authenticate the connection. If no provider or domain is specified, native IBM SPSS Collaboration and Deployment Services security is used.
PEV.SECURE	Optional	The flag must be set to true if a secure connection to the repository is required. Default is false.
PEV.DOMAIN	Optional	Active directory domain used for repository connection authentication.
PEV.DESC	Optional	The description of the data source.
PEV.DPD	Required	The repository path of the Data Provider Definition.
PEV.DPD.ID	Required	The repository ID of the Data Provider Definition.
PEV.LABEL	Required	The version label of the Data Provider Definition.
PEV.ENV	Optional	Specifies whether <i>analytic</i> , <i>operational</i> , or <i>reporting</i> environment for Enterprise View is to be used. It is strongly recommended that the environment be specified because the default is value based on the selected Data Provider Definition and cannot be validated by the driver.

Parameter name	Required/Optional	Description
PEV.AV	Optional	The repository path of the Application View. It is strongly recommended that the Application View be specified because the default is value based on the selected Data Provider Definition and cannot be validated by the driver.
PEV.AV.ID	Optional	The repository ID of the Application View.
PEV.LOG_FILE (JDBC only)	Optional	The log4j log file to be used.
PEV.LOG_LEVEL (JDBC only)	Optional	The log4j logging level.

The JDBC driver class name is *com.spss.pev.driver.jdbc.PEVDriver*. The JDBC URL format is as follows:

```
jdbc:pev://<server>:<port>;<parameters>
```

The following is an example of the IBM SPSS Collaboration and Deployment Services Enterprise View JDBC URL:

```
jdbc:pev://cds01:8080;PEV.ENV=analytic;PEV.LABEL=LATEST;PEV.DPD=/JONESCORP/DPD;PEV.AV=/JONESCORP/AV
```

IBM SPSS Collaboration and Deployment Services Enterprise View ODBC connection requires that DSN or DRIVER or both be specified. If the ODBC connection is made using the DSN, all the necessary fields will be provided through the data source configuration. When using a driver specification (for example, when IBM SPSS Collaboration and Deployment Services Enterprise View ODBC data source is not configured on the system), all the required fields be must be provided by the application in the driver connection string. The fields include:

- DRIVER
- UID
- PWD
- PEV.HOST
- PEV.PORT
- PEV.DPD and/or PEV.DPD.ID
- PEV.LABEL

Notes

- The Data Provider Definition must be specified as the repository path or resource ID or both. The Application View can also be specified either as the path or the ID. If the repository ID is used, the expected value is the alphanumeric part of the object URI, for example, `ac140f2817f156cd0000011580516f1c802e`. Using repository resource ID preserves the connection in cases when the object repository path changes. When both the path and ID are passed to the driver, it attempts to use the ID and falls back to the path if unsuccessful.
- The user name passed to the driver should be a well formed IBM SPSS Collaboration and Deployment Services username. If no provider/domain is specified, the user will be authenticated by native IBM SPSS Collaboration and Deployment Services security. For other security providers, the user field should be in `<security provider ID>/<security provider`

domain>/<user name> format; otherwise, individual *PEV.PROVIDER* and *PEV.DOMAIN* parameters can be specified.

Known limitations

- ▶ On UNIX-based operating systems, BIGINT type is treated as *numeric(19,0)*, which may result in loss of precision.

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