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Intergraph Smart Data Validator

Installation and Setup Guide

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Contents

Preface

This document contains information about the installation and configuration of Intergraph Smart® Data Validator. This document is intended for system administrators and users who are installing and setting up Smart Data Validator.

Smart Data Validator Product Documentation

Smart Data Validator documentation is available as Help and as PDF files. To view printable guides for Smart Data Validator, click **Help > Printable Guides** in the software.

Hexagon PPM gives its customers permission to print as many copies of the delivered PDF files as they need for their non-commercial use. Do not print the PDF files for resale or redistribution.

Release Bulletin

- *Smart Data Validator Release Bulletin* - Provides information on Smart Data Validator features for the current release.

Installation and Overviews

- *Smart Data Validator Installation and Setup Guide* - Provides installation and setup instructions for Smart Data Validator.
- *Smart Data Validator Getting Started Guide* - Provides overview information to help users know about the Smart Data Validator functionalities.

Administration User's Guide

- *Smart Data Validator Administration User's Guide* - Provides instructions for administering the configuration of Smart Data Validator.

Job Management User's Guide

- *Smart Data Validator Job Management User's Guide* - Provides instructions on the management of jobs that process imported data to a specified workflow and export that data to a target system or target systems.

Customization Guide

- *Smart Data Validator Customization Guide* - Provides instructions for creating and modifying the various areas of customization possible in Smart Data Validator and details on provided samples included with the release.

Troubleshooting Guide

- *Smart Data Validator Troubleshooting Guide* - Provides information about troubleshooting the installation and configuration of Smart Data Validator.

Customer Support

For the latest support information for this product, use a web browser to connect to *http://hexagonppm.com/ppm-support* (*http://hexagonppm.com/ppm-support*). Also, you can submit any documentation comments or suggestions you might have on our support site.

To access the Technical User Forum, go to

http://www.intergraph.com/ppm/customers/tuf/foundation.aspx
(*http://www.intergraph.com/ppm/customers/tuf/foundation.aspx*)

SECTION 1

Welcome to Smart Data Validator

Smart Data Validator is a comprehensive solution that enables you to significantly reduce the time and costs associated with the validation of data to be exported into your target system databases. Smart Data Validator manages the data for quality assurance purposes, and provides reports that can be used for both greenfield and brownfield environment data to help minimize quality issues. By increasing the accuracy of imported data using validation rules, you can improve the quality of the data exported to a new database system or an existing brownfield plant. Smart Data Validator helps manage this migration of data from projects and contractors into new projects, databases, and legacy database systems in easily configurable steps, which can help accelerate any handover.

Smart Data Validator manages the acquisition of data from multiple sources and verifies the quality of the incoming data before it is loaded into target projects or operational database systems. Data that you load into Smart Data Validator is subject to rigorous quality control, before being exported into the target systems, such as Hexagon PPM's SmartPlant® Enterprise suite or other database systems. Smart Data Validator improves the range, quality, consistency, and traceability of the validation performed, which enables you to check the quality of information in deliverables before you send to your customers.

Smart Data Validator has been designed so that you no longer need to write any code for the validation and export processes. These have been replaced by an automated rules based system for the validation and mapping of data objects. A consistent SmartPlant Foundation workflow operation ensures that the requirements for any imported data are met before export to a specified target system.

Overview of Smart Data Validator Features

Smart Data Validator software contains features that when combined together, make a versatile application.

- **Target systems** - Allows you to define a system or database to be the destination for any validated data imported into Smart Data Validator. Target systems can be used to provide the structure for importing and exporting data to the target system.
- **Import definitions** - Allows you to structure the import of data from CSV files into the staging area. The column header features can be used to modify and append the import of data structured to match an existing database system. This includes reaching out to the target system for additional column and formatting information.
- **Validation** - Validates the imported data coming into the staging area against a defined set of validation rules, which can be modified to screen and filter the data to match the required output system. Provides a validation report on validated objects to help with error correction or for records.
- **Implicit delete** - Controls the deletion or termination of objects in the database according to defined delete rules. Provides a delete report for approval before the data export continues.
- **Export mappings** - Exports the imported data structured to map into an existing target system, such as a SmartPlant Foundation database. The mappings can be auto generated

to match a specific target system and they can be modified for exact stage to target object mappings.

- **Job definitions** - Combines a sequence of connected operations into a workflow to create a job definition to export data into a target system database, such as selecting CSV data files, import mapping, and export mapping.
- **Job Management** - Allows you to process the workflow as jobs to import data, validate the data, and export the data into a target system, as well as run reports on any validation errors, implicitly deleted files, and the import process for business reporting.

Internationalization

Supporting internationalization in a homogeneous environment is one of the enhancements available in SmartPlant Enterprise. A homogeneous environment uses elements from only a single locale. For example, a German customer running on a German operating system using only German characters and German cultural conventions is a fully supported homogeneous environment configuration.

Homogeneous Environments

When starting a new project, use extra care during installation and configuration to ensure the proper creation and maintenance of homogeneous environments:

- All the computers (servers and clients) within an integrated SmartPlant Enterprise implementation must have the same regional settings, and no one should change the regional settings after the project has started.
- Do **not** cross the decimal locale boundary. This is the most common cause of numeric data corruption and calculation errors. Having users with different regional settings (such as with a period versus a comma for the decimal point) causes the software to interpret values unpredictably. For example, a pipe run with a pressure of 35.3 psi can be read by the software as 353 psi to the user with different regional settings. A cable length defined as 39 ft 11,21 inches has been interpreted as 121718910971323 meters when published to an XML file. These incorrect interpretations may be used in internal software calculations and can be impossible to backtrack or correct. Do not change the decimal point character to try to solve an issue. Doing so will only corrupt values in the database or in text files.
- Do **not** cross the character-set locale boundary. For example, the character set boundary between Western (Latin-based) and Eastern Europe (Cyrillic-based), or between Eastern Europe and Japan.
- Create Oracle databases using AL32UTF8 for the database character set and AL16UTF16 for the NLS character set.
- Never modify the NLS_LANG registry entry on an Oracle client. Doing so causes the character data not to convert to Unicode.
- Create Microsoft SQL Server databases with locale-specific collation settings and ensure that all databases have the **same** setting.

Heterogeneous Environments

In contrast, a heterogeneous environment using elements from different, or even multiple locales, **is not supported**. Many customers are currently operating in unsupported

heterogeneous environments and are often not aware of that fact. Examples of heterogeneous environments:

- Entering or viewing Japanese data on a US/English operating system
- Using German Regional Settings (where the decimal point is a comma) on a US/English operating system
- Using databases with different character encodings such as CL8MSWIN1251 or JA16SJIS
- Using multiple languages in a project, **especially** when crossing language-group boundaries
- Using an English server with different local language clients

International / Bi-lingual Projects

International bi-lingual projects are possible; however, great care must be used when configuring these environments. Limitations exist and must be properly understood:

- Oracle and MS SQL Server databases can reside on any language operating system, as long as the databases have been created and configured with proper Unicode and collation settings.
- All SQL Server databases must have the same collation setting and reflect the *master* language. Text is stored, sorted, indexed, and presented based on the collation setting. You must determine which language will be used primarily to generate output (P&IDs, SLDs, reports, approval documents, and so forth.) If Russian and English text is entered, and Russian is the target locale, choose the collation based on the Cyrillic character set.
- All Microsoft operating systems (Japanese, Russian, German, and so forth) can enter English characters. The reverse, however, is not true in most cases.
- Keyboard-locale can be changed as long as a character-set and code-page boundary is not crossed. For example, English, German, French, and Spanish characters can all be used in the same project because the same Windows® code-page (1252) is used. However, Russian characters (code-page 1251) cannot be used in a US/English environment.
- You must decide which language operating system is the master for bi-lingual projects.

The following is an example of a Russian-based project:

Companies in the United States and the United Kingdom are working a project with a Russian company and the deliverables (drawings, reports, and so forth) must ultimately be provided in Russian. The companies in the U.S. and the U.K. are working the project using the *master* Russian operating systems (possibly using virtual Russian operating systems running on VMware Workstation). The U.S. and U.K. companies can install and use English Microsoft Office products on the Russian operating system because Office products are globally enabled. If a Russian interface exists for the SmartPlant Enterprise application, then Russian users can use the Russian interface while the English-speaking users continue to use the US/English interface. English-speaking engineers can enter English characters. Russian-speaking engineers can enter Russian characters.

However, because the Russian locale uses different decimal and character-set locales, everyone (English and Russian engineers) **must** use the Russian decimal symbol which is a comma. For customization purposes, databases can be modified to accommodate new Russian-specific requirements (fields, properties, and so forth.) Using filters, display sets, and other software features, bi-lingual projects can be further customized. Graphic data, reports, and so forth can be created in either or both languages.

⚠ CAUTION Do not change regional settings to reflect a U.S. environment in order to resolve problems in a non-US/English homogeneous configuration. Doing this creates a heterogeneous configuration that **will** cause other possibly hidden problems that cannot be corrected. Everyone working on a project must use the same regional settings and character set throughout the life of the project.

Citrix XenApp Solutions for International Projects

Using Citrix XenApp Solutions, you can define environments that isolate users from having to interact with non-native language operating systems while improving data integrity and minimizing opportunities for data corruption. However, users must enter data using master locale conventions for the project (decimal separator and date conventions, for example). You can create these environments using different combinations of languages, but some limitations exist. For example, you cannot use Russian and Chinese text together in a project. In addition, special language characters (the German ä and ß for example) cannot be used if the master locale is outside the western Latin-based languages (the master locale is Russian, Chinese, Japanese, or Korean, for example).

Questions and Assistance

Please contact your support representative for assistance and answers to your questions: see *customer support* (*http://hexagonppm.com/ppm-support*).

SECTION 2

Smart Data Validator Hardware and Software Recommendations

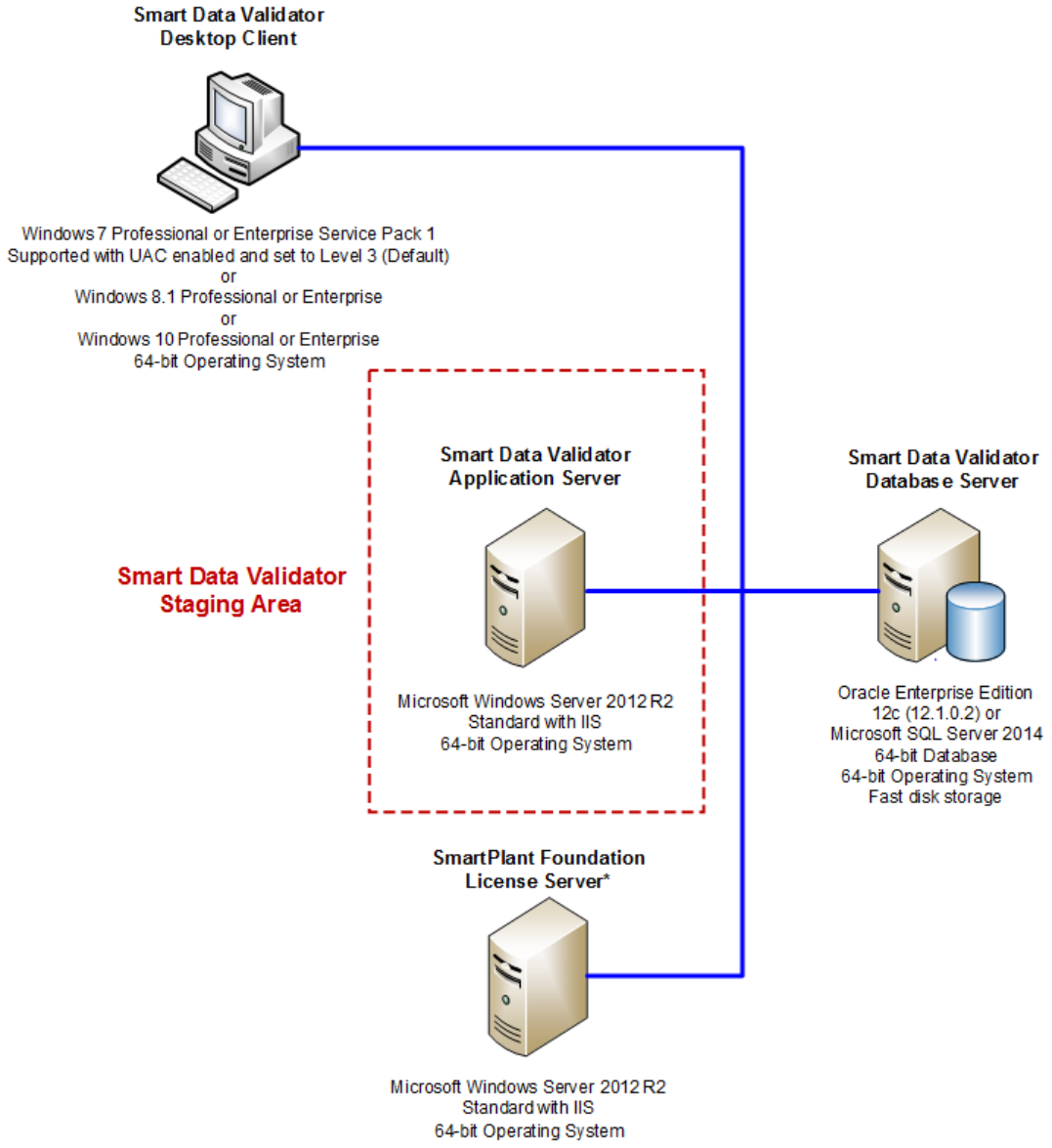
Before beginning an installation of Smart Data Validator, verify that your servers and workstation computers meet the required hardware recommendations and software requirements.

- Smart Data Validator is a 64-bit application. It was certified on 64-bit hardware with a 64-bit operating system.
- For increased performance for the Smart Data Validator Database Server, we recommend using a 64-bit database server.
- We highly recommend installing the database software on a Database Server separate from the Smart Data Validator Application Server for improved performance.
- For increased performance, use different application servers for staging and target systems. Also, install separate database servers for staging and target systems respectively.
- Smart Data Validator is based on SmartPlant Foundation technology, which provides a comprehensive electronic data storage, exchange, management, and integration system.
- Smart Data Validator must be installed on an Application Server that has been configured with SmartPlant Foundation Server Components and all the required prerequisite software.
- Smart Data Validator client must be installed on a workstation that has been configured with SmartPlant Foundation Desktop Client and all the required prerequisite software.

NOTE Hardware sizing, especially for servers, depends on many factors such as the number of concurrent users per site, the size of the project (which translates into the size of the database), and other software that is running on the machine.

Smart Data Validator architecture

The following diagram example represents a summary of the preferred architecture for Smart Data Validator.



* The optional License Server specifications are for a SmartPlant License Manager implementation. FLEXlm specifications differ. For more information, see the detailed recommendations.

Smart Data Validator database server

Please refer to your Oracle or Microsoft SQL Server product documentation for information on configuring your database server hardware.

Smart Data Validator database server has the same hardware and software requirements as SmartPlant Foundation. For more information on SmartPlant Foundation hardware and software recommendations, see the *SmartPlant Foundation Installation and Setup Guide* delivered with SmartPlant Foundation software.

IMPORTANT For SQL Server databases, the case-sensitivity of Smart Data Validator is based on the collation settings. You must set the case-sensitive or case-insensitive settings while installing the database. This setting will determine whether or not Smart Data Validator will consider case during rule execution.

Smart Data Validator application server

The Smart Data Validator application server must be installed on a SmartPlant Foundation application server. Smart Data Validator application server has the same hardware and software requirements as SmartPlant Foundation. For more information on SmartPlant Foundation hardware and software recommendations, see the *SmartPlant Foundation Installation and Setup Guide* delivered with SmartPlant Foundation software.

IMPORTANT Smart Data Validator requires 1 TB of disk space on the application server to run import, validation, and export operations on large data sets.

Software prerequisites

- SmartPlant Foundation 2018. For more information on installing SmartPlant Foundation, see *SmartPlant Foundation Installation and Setup Guide*.

Smart Data Validator client workstation

Hardware recommendations

These hardware recommendations are based on a 64-bit platform.

- 4 core 3 GHz processor
- 8 GB RAM
- 200 GB of free disk space for software installation
- DVD drive access, either locally or through a network connection for installation
- 100 BaseT or higher network interface

Supported operating system

- Windows 7 Professional or Enterprise Service Pack 1 (64-bit)

  NOTE Windows 7 is supported with UAC enabled and set to Level 3 (Default).
- Windows 8.1 Professional or Enterprise (64-bit)

- Windows 10 Professional or Enterprise (64-bit)

  NOTE Windows 8.1 and Windows 10 are supported with UAC enabled and set to "Notify me only when apps try to make changes to my computer" (default).

Microsoft Office version

- 32-bit version of Microsoft Office 2010, 2013, and 2016

Software prerequisites

- SmartPlant Foundation Desktop Client 2018. For more information on installing SmartPlant Foundation, see *SmartPlant Foundation Installation and Setup Guide*.

SECTION 3

Installing Smart Data Validator

Before you start the installation, you must verify that SmartPlant Foundation and all the prerequisite software is installed, and decide the location where the software will be installed.

NOTES

- The installation process can be used to install all Smart Data Validator components and configuration files or as separate installations for Smart Data Validator server or Smart Data Validator client. Select the component features available for your installation.

  For the application server installation, see *Install Smart Data Validator application server* (on page 17).

  For the client installation, see *Install Smart Data Validator client* (on page 19).

- The installation process checks whether the required software and services are installed. A warning message asks you must install any missing software or services before you can continue.
- By default, the software is installed in the following location: C:\Program Files (x86)\Smart\SDV\2018. Check with your IT department for any specific guidelines about where to install the software.

IMPORTANT

- All existing versions of Smart Data Validator software must be uninstalled before beginning installation of a new released version.
- All applications must be closed before beginning installation, such as SmartPlant Foundation Desktop Client and SmartPlant Foundation Server Manager.

Install Smart Data Validator application server

1. From the product installation DVD, if the installation does not start automatically, double-click **SDV_setup.exe**.
2. In the **Welcome** window, click **Start Setup**.
3. In the **Details and Features** window, enter your **Serial Number**, **User Name**, and **Company**.
4. In the **Select Features To Install** section, select the components you want to install:

   IMPORTANT You can clear the check boxes for any software that you do not want to install. However, if this software installation is a modification to a previous installation, do not clear any selected check boxes unless you want those components to be uninstalled.

   The components available for you to install are:

   - **All Features** - Installs all components and configuration files.
   - **SDV**
     - **Server** - Installs all server components and configuration files.

- **Client** - Installs all client components and configuration files.

- **Target System Adapter** - Installs the target system adapter component and configuration files.

IMPORTANT Smart Data Validator uses a target system adapter to connect to a target system. You must ensure that the target system adapter is installed to configure a site as a target system.

5. In the **Install Path** section, enter the path on the local server where the software is to be installed.
6. Click **Next**.
7. In the **License Agreement** window, from the **Country or Region** list, select your country or region.
8. Carefully read the licensing agreement. When you are finished, select **I agree to the license agreement and conditions**, and click **Install**.
9. Click **Finish** when the installation is complete.

   NOTE Check the .log file from the %temp% folder to ensure that the installation proceeded without errors. The log file records all of the installation progress and any errors that might have occurred during the install process.

Install Smart Data Validator target system adapter

1. From the product installation DVD, if the installation does not start automatically, double-click **SDV_setup.exe**.
2. In the **Welcome** window, click **Start Setup**.
3. In the **Details and Features** window, enter your **Serial Number**, **User Name**, and **Company**.
4. In the **Select Features To Install** section, select the components you want to install:

   IMPORTANT You can clear the check boxes for any software that you do not want to install. However, if this software installation is a modification to a previous installation, do not clear any selected check boxes unless you want those components to be uninstalled.

   The component that you need to install is:

   - **SDV**
     - **Target System Adapter** - Installs the target system adapter component and configuration files.
5. In the **Install Path** section, enter the path on the local server where the software is to be installed.
6. Click **Next**.
7. In the **License Agreement** window, from the **Country or Region** list, select your country or region.
8. Carefully read the licensing agreement. When you are finished, select **I agree to the license agreement and conditions**, and click **Install**.
9. Click **Finish** when the installation is complete.

Install Smart Data Validator target system adapter compatible with SmartPlant Foundation 2016

If you are going to use a target system that is installed with SmartPlant Foundation 2016 Hotfix 12 or later, you must use the following instructions to install the **SDV_setup.exe** file:

1. In the installation DVD, navigate to the TargetSystemAdapterForSPF2016 directory located at: *[CD drive]*\2018\TargetSystemAdapterForSPF2016, and double-click **SDV_setup.exe**.
2. In the **Welcome** window, click **Start Setup**.
3. In the **Details and Features** window, enter your **Serial Number**, **User Name**, and **Company**.
4. In the **Select Features To Install** section, select the components you want to install.

   The components available for you to install are:

   - **SDV**
     - **Target System Adapter** - Installs the target system adapter component and configuration files.
5. In the **Install Path** section, enter the path on the local server where the software is to be installed.
6. Click **Next**.
7. In the **License Agreement** window, from the **Country or Region** list, select your country or region.
8. Carefully read the licensing agreement. When you are finished, select **I agree to the license agreement and conditions**, and click **Install**.
9. Click **Finish** when the installation is complete.

Install Smart Data Validator client

1. From the product installation DVD, if the installation does not start automatically, double-click **SDV_setup.exe**.
2. In the **Welcome** window, click **Start Setup**.
3. In the **Details and Features** window, enter your **Serial Number**, **User Name**, and **Company**.
4. In the **Select Features To Install** section, select **SDV > Client**.

   ★ IMPORTANT You can clear the check boxes for any software that you do not want to install. However, if this software installation is a modification to a previous installation, do not clear any selected check boxes unless you want those components to be uninstalled.

   The component that you need to install is:

   - **SDV**
     - **Client** - Installs all client components and configuration files.
5. In the **Install Path** section, enter the path on the local server where the software is to be installed.
6. Click **Next**.

7. In the **License Agreement** window, from the **Country or Region** list, select your country or region.
8. Carefully read the licensing agreement. When you are finished, select **I agree to the license agreement and conditions**, and click **Install**.
9. Click **Finish** when the installation is complete.

   TIP You can view the software read me file by selecting the **View Readme** option.

   NOTE Check the .log file from the %temp% folder to ensure that the installation proceeded without errors. The log file records all of the installation progress and any errors that might have occurred during the install process.

Install Smart Data Validator in silent mode

To install Smart Data Validator in silent mode, use the installation executable file in a command line with the required information passed as arguments.

For example, to install Smart Data Validator with all features selected, use the following command, using your serial number, user name, and company name:

```
SDV_setup.exe -silent -install SLAACCEPT=YES ADDLOCAL=ALL
SERIALNUM=000000000 USERNAME=UserName COMPANYNAME=YourCompany
```

IMPORTANT Before running a silent installation setup of Smart Data Validator over a network ensure that:

- All arguments and values are case-sensitive.
- All existing versions of the software have been uninstalled before beginning the network installation of a new released version.
- The target computer meets the free disk space recommendations specified in the *Smart Data Validator Hardware and Software Recommendations* (on page 13).
- All applications have been closed before beginning installation, such as SmartPlant Foundation Desktop Client and SmartPlant Foundation Server Manager.

Required silent install parameters

Parameter	Description
-q, -quiet, -s, silent	Runs in silent mode (no prompts).
-install	Performs an installation.
SLAACCEPT	Accepts the license agreement. Value must be YES.
SERIALNUM	Provides your product serial number.
USERNAME	The user name associated with the product serial number.
COMPANYNAME	The company name associated with the product serial number.

Optional silent install parameters

Parameter	Description
-l, -log	Writes log information to a file.
-uninstall	Removes all installed components of the software.
-repair	Reinstalls all installed components of the software.
-modify	Updates the installation as specified.
INSTALLDIR	Specifies a path to the location where the software is to be installed.
ADDLOCAL	Specifies the list of features to be installed, separated by commas. Feature names are case-sensitive. For all features, use ALL. For individual features, use the following strings: SDVClient,SDVRegistry SDVServer,SDVRegistry SDVAdapter,SDVRegistry
REMOVE	Specifies the list of features to be removed, separated by commas. Feature names are case-sensitive.

TIP Ensure the setup path specifies the path to the folder that contains the SDV_setup.exe file that launches the software component installation. Double quotes are required only if the path to the SDV_setup.exe file contains spaces.

NOTE A silent installation produces a .log file when the optional parameter is used. Check the .log file for any errors or when an error occurs. The log file records all of the installation progress and any errors that occurred during the install process.

SECTION 4

Configuring the Smart Data Validator Application Server

Once you have installed the Smart Data Validator Server component, you need to perform the following procedures to configure a site and the database settings:

- *Set up the Smart Data Validator site in Server Manager* (on page 22)
- *Configure the database settings* (on page 24)

Set up the Smart Data Validator site in Server Manager

Once Smart Data Validator has been installed, use the SmartPlant Foundation Server Manager application to create and configure the server settings for your Smart Data Validator site. The Smart Data Validator site configuration installs and updates:

- DLLs
- Configuration XML files on a SmartPlant Foundation site
- SDV dump files to create a specific database for Smart Data Validator
- Site-specific stored procedures

Create a new Smart Data Validator site

 The Server Manager **Edit > New** command allows you to create new sites using the Server Manager **New Site Wizard**. The Server Manager **New Site Wizard** allows you to create new Smart Data Validator sites using new or existing Oracle and SQL Server databases.

IMPORTANT

- You must have IIS installed on your computer before you can use this command.
- We recommend that you add and delete sites only through the Server Manager application. Do not use IIS to delete any virtual directories created using this command.

NOTES

- Creating a new site also creates a set of virtual directories in Internet Information Service (IIS) on your computer.
- The wizard logs information about site creation in a log file located in the Temp\ServerManager directory of the default path (for example, C:\Smart Data Validator 2018 Server Files\Temp\ServerManager). The log file name is SiteCreation#date_time#.log, where #date_time# represents the date and time of the database creation (for example, SiteCreation6.20.2014_3.46.log).

- You can allow the wizard to automatically create local users on the operating system, set them to run as the identity of the related application pool, and set permissions for the users.
- Right-click the **SmartPlant Foundation Sites** node in the tree view, and click **SDV** > **Create new SDV site**  on the shortcut menu to open the **New Site Wizard**.
- We highly recommend that you use the delivered Smart Data Validator seed database to create your Smart Data Validator site, as it contains the database, schema, and configuration settings specifically created for use with Smart Data Validator. This seed file can be found in the following location <drive>\Program Files (x86)\Smart\SDV\2018\Database. If you use the SmartPlant Foundation seed database files instead, additional steps will be necessary to set up the site. For more information, see *Converting an Existing SmartPlant Foundation Site for Use with Smart Data Validator* (on page 45).
- To load the database scripts for the Oracle database, type the tablespace name in the **Index Tablespace** box. When you create the site using SQL Server, the database scripts are loaded automatically.
- To load the database scripts for an existing user in the Oracle database, you need to provide the data tablespace and index tablespace names.
- Avoid using the special characters **[** and **^** in the Smart Data Validator site name as they can cause errors.
- Do not exceed the maximum of 20 characters in a site name.
- When you configure a new Smart Data Validator site using the wizard, there are two properties that are set automatically in the **Site Creation** section that allow the Smart Data Validator module to appear in the main SmartPlant Foundation Dashboard window; the **Is SDV configured?** property is set to **Yes** and the **Configured SDV Version** property displays the internal version number of Smart Data Validator.

For more information on creating and configuring SmartPlant Foundation sites, see the *SmartPlant Foundation Server Manager Guide*.

Modify the Smart Data Validator site settings

The **Settings** node under the new Smart Data Validator site in Server Manager contains general SmartPlant Foundation settings, as well as settings specific to Smart Data Validator.

Is SDV Configured - Indicates whether Smart Data Validator has been configured for this site using a **Yes** or **No** value.

Configured SDV Version - Specifies the internal build number of the Smart Data Validator software that has been configured for this site, such as 01.00.00.0010.

VTLExportBatchSize - Specifies the number of objects that can be sent in a batch to the target system. The default value is 10,000 objects per batch.

VTLExportFileUploadMaxRetries – The maximum number of attempts that can be made to upload a single file after it fails to upload. The default setting is 5.

VTLExportFileUploadTimeout – The maximum time allowed to upload a file before a file service timeout occurs. The default value is 10000 (milliseconds). This value can be increased up to a maximum of 108000000 milliseconds (30 hours), depending on the size of the file being uploaded and other factors, such as the system's processor speed, network speed, and so on.

VTLExportFileUploadBatchSize – The maximum number of files that can be uploaded each time before the progress status is updated. The default setting is 5.

Configure the database settings

Once the site is created and configured, you must configure your database settings by:

- *Configuring the database timeout* (on page 24)
- *Modifying the Web.Config file to support large jobs* (on page 24)

Configuring the database timeout

When performing exports of large data sets, such as data sets with 250,000 objects or more, the database timeout setting for the Smart Data Validator site may need to be increased so that your specific SmartPlant Foundation system does not close the Oracle or SQL connection. If you encounter the following message, increase the database time out setting.

```
SPF.Server.SPFException: Failed to Execute Stored Procedure --->
Oracle.DataAccess.Client.OracleException: ORA-01013: user requested
cancel of current operation
```

Use the following operation to increase the timeout value:

1. In Server Manager, expand your Smart Data Validator site node, and select the **Settings** node.
2. Double-click the **DBCommandTimeoutSeconds** option, and increase the value provided. For example, 28800 seconds. This value can be increased up to a maximum of 108000 seconds (30 hours), depending on factors such as the system's processor speed, network speed, and so on.

For more information on the timeout setting to use, contact your system administrator.

Modifying the Web.Config file to support large jobs

When processing jobs with large data files, it is possible that the jobs may fail if the process of importing and validating the job takes longer than the default timeout settings in the Web.config file.

To ensure that the system does not timeout while processing large jobs, increase the Web.Config values for the following:

- closeTimeout
- openTimeout
- receiveTimeout
- sendTimeout

Each value can be reset from the default 10 minutes ("00:10:00") up to 59 minutes ("00:59:00"). This value can be further increased as required, depending on the size of the file being uploaded and other factors, such as the system's processor speed, network speed, and so on.

If the job reaches the timeout limit during the import process, the import fails and the following error is displayed on the **Summary** tab in Smart Data Validator Job Management:

```
Error: Failed to Execute Store Procedure
```

If the job reaches the timeout limit during the validation process, the validation fails and the following error is displayed on the Summary tab in Smart Data Validator Job Management:

ORA-01013: user requested cancel of current operation

SECTION 5

Configuring SmartPlant Foundation as a Smart Data Validator Target System

A target system is a defined database system that can be the export destination for any validated data imported into Smart Data Validator, as well as the system on which all import mappings, validation rule sets, and export mappings are based.

IMPORTANT Smart Data Validator connects to the selected target system through a target system adapter. You must ensure that the target system adapter component is selected as part of your component features to install in order to configure a site as a target system. For more information, see *Install Smart Data Validator target system adapter* (on page 18).

When your target system is based on SmartPlant Foundation, you can use the target system as the basis to create your import mappings, validation rule sets, and export mappings. There is an indicator on the target system object that indicates whether the target system supports validation and object queries, which are used to build the mappings. You can have other target systems configured for Smart Data Validator, which can also be used just for creating the export mappings.

NOTE If you are using SmartPlant Foundation as your target system, you must have SmartPlant Foundation 2018 installed. For more information on installing SmartPlant Foundation, see *SmartPlant Foundation Installation and Setup Guide*.

You must do the following on the SmartPlant Foundation server when it is configured as the target system:

- Install the Target System Adapter component. For more information, see *Install Smart Data Validator target system adapter* (on page 18).
- *Set up the target site in Server Manager* (on page 26)
- *Configure the database settings* (on page 24)
- *Configure the target system scheduler* (on page 29)

Set up the target site in Server Manager

1. In SmartPlant Foundation Server Manager, expand the **SmartPlant Foundation Sites** node**.**
2. Right-click the node for the site that is to serve as a target system for Smart Data Validator, and on the shortcut menu, click **SDV** > **Configure SDV Target System Adapter**.
3. Click **Yes** to load the database scripts.
4. In the **Enter Database Credentials** dialog box, type the database username and password to which you are connecting.
5. Click **OK**.

6. In the **Select Tablespaces** dialog box, select the tablespace names from the **Data Tablespace** and **Index Tablespace** lists to load the database scripts for the Oracle database.

   NOTE When you create the site using SQL Server, the database scripts are loaded automatically.

7. Close SmartPlant Foundation Server Manager and recycle the application pools for your site using Internet Information Services (IIS) Manager to avoid database connection errors.

NOTES

- When you configure a site as a SDV target system, two properties within the site's **Settings** node are changed. The **Is Target System Adapter configured?** property is set to **Yes** and the **Installed Target System Adapter Version** property displays the internal version number of Smart Data Validator.
- You can update the target system with the latest .dll files and .xml configuration files by right-clicking on the target system site node, and clicking **SDV** > **Update SDV Target System Adapter.**
- When you create a new import definition in Smart Data Validator Administration, you can select any site that has been configured as a target system. If you have selected the **Auto Generate Export Mapping** or the **Auto Generate Validation Rule** option, the export mapping and validation rules are automatically generated to match the selected target system.

Modify the target system site settings

The **Settings** node under the Smart Data Validator target system site in Server Manager contains general SmartPlant Foundation settings, as well as the following settings specific to Smart Data Validator.

- **Is Target System Adapter Configured?** - When set to Yes, this indicates that the target system adapter component of Smart Data Validator has been installed and configured on the target system.
- **Installed Target Adapter System Version** - Specifies the internal version number of the Smart Data Validator target system adapter that has been configured, such as 01.00.00.0010. This value will appear only if the target system adapter has been configured on this site.
- **VTLExportLoadBatchSize** - Specifies the number of objects that can be committed to the Smart Data Validator target system database within one transaction. The default value is 1,000 objects per batch.
- **VTLExportFileUploadMaxRetries** – The maximum number of attempts that can be made to upload a single file after it fails to upload. The default setting is 5.
- **VTLExportFileUploadTimeout** – The maximum time allowed to upload a file before a file service timeout occurs. The default value is 10000 (milliseconds). This value can be increased up to a maximum of 108000000 milliseconds (30 hours), depending on the size of the file being uploaded and other factors, such as the system's processor speed, network speed, and so on.
- **VTLExportFileUploadBatchSize** – The maximum number of files that can be uploaded each time before the progress status is updated. The default setting is 5.

Configure database settings

Once the target system site is created and configured, you need to make some minor modifications to your database settings in the following:

- *Configuring runtime execution timeout* (on page 28)
- *Configuring receive timeout* (on page 28)

Configuring runtime execution timeout

When performing exports of large data sets, the runtime execution timeout setting in the web.config of the target system site must be increased. This is so that you can avoid any thread abort errors and the export of data to the target system can complete.

The parameter **httpRuntime executionTimeout** in the web.config file specifies the time after which Internet Information Services (IIS) closes and the export stops. To allow more time for the export to be completed, modify the **httpRuntime executionTimeout** value in the web.config file on the staging system and target system sites. You can increase the value to a maximum of 108000 seconds (30 hours), depending on factors such as the system's processor speed, network speed, and so on.

In the following example, the parameter is set to 36000 seconds (which equals ten hours).

```
 <system.web>

    <!-- The upload limit is currently set to 400MB, this can be changed
as necessary -->

    <httpRuntime executionTimeout="36000" maxRequestLength="400000"/>
```

Configuring receive timeout

When performing exports of large datasets, you can increase the **receiveTimeout** setting found in the target system's web.config file to avoid any timeout, network, or processing error messages. The **receiveTimeout** setting specifies how long the Internet Information Services (IIS) will remain open to receive files before closing the export.

In the following example, the **receiveTimeout** setting in the **netTcpBindingNoSecurity** section binding was increased from the default 10 minutes to 59 minutes to allow more time for exporting a large dataset. If required, you can increase this value depending on factors such as the system's processor speed, network speed, and so on.

```
    <binding name="netTcpBindingNoSecurity" closeTimeout="00:10:00"
openTimeout="00:10:00" receiveTimeout="00:59:00" sendTimeout="00:10:00"
transactionFlow="false" transferMode="Buffered"
transactionProtocol="OleTransactions"
hostNameComparisonMode="StrongWildcard" maxBufferPoolSize="2147483647"
maxBufferSize="2147483647" maxConnections="100"
maxReceivedMessageSize="2147483647">          <readerQuotas
maxDepth="2147483647" maxStringContentLength="2147483647"
maxArrayLength="2147483647" maxBytesPerRead="2147483647"
maxNameTableCharCount="2147483647"/>

          <security mode="None"/>
```

```
</binding>
```

Configure the target system scheduler

When you have configured a target system site for Smart Data Validator using SmartPlant Foundation Server Manager, you must load the dedicated Smart Data Validator Scheduler. This scheduler is separate from the existing scheduler in SmartPlant Foundation Desktop Client, as it polls only for export and implicit delete jobs in Smart Data Validator Job Management.

The load files for installing this scheduler are available in the installation package located at: <drive>:\Program Files (x86)\Smart\SDV\2018\Model or the equivalent installation path selected for your system.

To load the configuration files into the target system, use the loader in SmartPlant Foundation Desktop Client to process the load file, VTLTargetSystem.xmlldr.

For more information on using the loader, see *Loader* in the *SmartPlant Foundation Desktop Client User's Guide*.

NOTE After loading the configuration files, recycle the configuration service application pools using Internet Information Services (IIS) to ensure that the scheduler is available for the system. Alternatively, you can restart the scheduler from within the SmartPlant Foundation Desktop Client, click **Find** > **Administration** > **Schedulers**, right-click **VTLExportTaskScheduler**, and on the shortcut menu, click **Scheduler** > **Restart**.

SECTION 6

Configuring Smart Data Validator to Convert SmartPlant Foundation Objects

Smart Data Validator allows the conversion of SmartPlant Foundation objects, such as a submittal, into a Smart Data Validator job. Contractors typically supply submittals to owner-operators. A submittal could be a Master Document Registry (MDR), a Master Tag Registry (MTR), a Tag Document Registry (TDR), or other files.

A separate schema, import mappings, export mappings, and rule sets are delivered with Smart Data Validator. You must load these files using the Loader in the SmartPlant Foundation Desktop Client.

NOTE If you are upgrading to a new version of Smart Data Validator, the delivered schema for conversion of a SmartPlant Foundation object into an SDV job can also be upgraded by selecting the **SDV PROJECT DATA** upgrade path in the SmartPlant Foundation Server Manager Upgrade Wizard.

For more information, see *Converting a SmartPlant Foundation Object to a Smart Data Validator Job* in the *Smart Data Validator Administration User's Guide*.

Load files in SmartPlant Foundation Desktop Client using Loader

For an object, such as the SCLBSubmittal, to be used to process data in CSV files, the IVTLJob, IVTLValidationJob, IVTLJobExportDetails, IVTLJobImportDetails, and ISPFConfigurationItem optional interfaces must be added. This schema is required to convert any type of SmartPlant Foundation object, such as a submittal, to an SDV job.

1. In SmartPlant Foundation Desktop Client, select **File** > **Loader**.
2. **Browse** to *[installation folder]*\SDV\2018\ProjectData\Model, and then select **Loadfiles.xmlldrs**.
3. Click **Process**. The Convert Import Validate Export workflow schema, the job details object schema, and the schema for converting the submittal object into an SDV job are loaded into the SmartPlant Foundation Desktop Client.
4. **Browse** to *[installation folder]*\SDV\2018\ProjectData\Mappings, and then select **LoadMappings.xmlldr**.
5. Click **Process**. The import mappings, export mappings, rule sets, job definitions, and job details are loaded into the SmartPlant Foundation Desktop Client.
6. Browse to *[installation folder]*\SDV\2018\ProjectData\ProcessSteps, and select **SCLBSubmittalProcessSteps.xml**.
7. Click **Process**.

The workflow process steps, **SetSubmittalCompletedDate** and **SetSubmittalStateToCOMPLETED**, are loaded into the SmartPlant Foundation Desktop Client.

NOTES

- After loading the **SCLBSubmittalProcessSteps.xml** file, you can add two optional workflow steps, **SetSubmittalCompletedDate** and **SetSubmittalStateToCOMPLETED** to the Convert Import Validate Export workflow. These two steps indicate the completion date and status of the submittal. For more information on how to insert steps into a workflow, see *Workflows* in the *SmartPlant Foundation Desktop Client User's Guide*.
- If you are using a site created using SmartPlant Foundation 2016 R2 or earlier, you have to delete the job details objects created earlier and create new job details objects as well as new job details item objects. For more information, see Create a new job details object and Create a new job details item object.
- You must update the job details objects after the upgrade, if you are upgrading to the latest version of SmartPlant Foundation.

SECTION 7

Generating Localization Resource Files

Smart Data Validator supports localization of both the client user interface and the messages returned to the client from the server, such as error or warning messages. You can adapt the software for your region and language by using the resource generation functionality. Strings that are used in the user interface are stored in a resource file (.resx). You must remove the existing strings in the resource file (.resx) and then use the resource generator utility to generate the replacement files.

Resource generation is a two-step process that involves generating a resource file and then generating a resource language assembly. The SDVResourceGenerator.exe file available at *[Install drive]*\Program Files (x86)\Smart\SDV\2018\Localization allows you to create the resource files and the resource language assembly files. The resource files are located at *[Install drive]*\Program Files (x86)\Smart\SDV\2018\Localization\Samples. For more information on generating localization resource files, see *Generating Localization Resource Files* in the *SmartPlant Foundation Server Manager User's Guide*.

After generation of the resource files, place the files in the following folders:

- Client resource files must be placed in *[Install drive]*\Program Files (x86)\SmartPlant\Foundation\2018\SPFDesktopClient\CurrentVersion\Modules
- Server resource files must be placed in *[Install drive]*\SmartPlant Foundation 2018 Server Files\Web_Sites*[your_SDVsite_name]*\Bin
- Target System Adapter resource files must be placed in *[Install drive]*\SmartPlant Foundation 2018 Server Files\Web_Sites*[your_SDVtargetsite_name]*\Bin
- Server Manager resource files must be placed in *[Install drive]*\Program Files (x86)\SmartPlant\Foundation\2018\ServerManager\Modules

SECTION 8

Upgrading Smart Data Validator

This section provides step-by-step instructions to upgrade Smart Data Validator Version 2016 R2 to Smart Data Validator Version 2018 (3.0).

NOTES

- If you want to upgrade from a release before Smart Data Validator 2016 R2, contact customer support (http://support.intergraph.com).
- For information on upgrading SmartPlant Foundation and SmartPlant Foundation sites, see the *SmartPlant Foundation Upgrade Guide*.

Smart Data Validator upgrade sequence

Typically, the upgrade process involves the steps listed below; however, your software may require a slightly different sequence, depending on your system configuration.

- Prepare to upgrade to Smart Data Validator 2018
  - Complete all jobs
  - Delete failed jobs
  - Make backups
  - Upgrade SmartPlant Foundation
- Upgrade the Smart Data Validator staging system
  - Verify prerequisite software is installed
  - Upgrade Smart Data Validator on the SmartPlant Foundation application server
  - Update the Smart Data Validator site on the SmartPlant Foundation application server
  - Upgrade the Smart Data Validator site
  - Update the Smart Data Validator site
- Upgrade the Smart Data Validator target system
  - Verify prerequisite software is installed
  - Upgrade Smart Data Validator on the SmartPlant Foundation application server
  - Update the Smart Data Validator site on the SmartPlant Foundation application server
  - Upgrade the Smart Data Validator target system
  - Update the Smart Data Validator target system
- Upgrade Smart Data Validator client workstations
  - Verify prerequisite software is installed
  - Upgrade Smart Data Validator on a client workstation

Complete all jobs

We recommend that all jobs should be complete before you upgrade because SDV creates tables for each job. If there are any changes to the table structures, then these changes are often difficult to apply.

Delete failed jobs

We recommend that you delete any failed jobs before upgrade. Ensure there are no tables with the prefix VTL in the database. If you leave a lot of failed jobs in the system, a significant amount of tablespace might be consumed. For more information, see *Database Tablespace Management* (on page 44).

Make backups

We recommend that you back up your Smart Data Validator site, vault and database before you upgrade. You can locate your web site by browsing to [*Drive]*:\SmartPlant Foundation *[Software version]* Server Files\Web_Sites*[Web Site]*.

You can export your configuration using the **Export Configuration** option in SmartPlant Foundation Server Manager. For more information, see *Export and import a configuration* in the *SmartPlant Foundation Upgrade Guide*.

Upgrade SmartPlant Foundation

Before upgrading Smart Data Validator, you must first upgrade and configure SmartPlant Foundation and its prerequisite software.

Smart Data Validator 2018 uses SmartPlant Foundation 2018.

For more information about upgrading SmartPlant Foundation, see the *SmartPlant Foundation Upgrade Guide* delivered with the SmartPlant Foundation software.

Upgrade the Smart Data Validator staging system

This section details how to upgrade the Smart Data Validator staging system.

Verify prerequisite software is installed

Before you upgrade Smart Data Validator on the SmartPlant Foundation application server, verify the installation of the prerequisite and recommended software.

For more information, see the *Smart Data Validator Hardware and Software Recommendations* (on page 13) or the SmartPlant Foundation hardware and software recommendations in the *SmartPlant Foundation Installation and Setup Guide* delivered with SmartPlant Foundation software.

Upgrade Smart Data Validator staging system on the SmartPlant Foundation application server

Typically, the upgrade process involves the steps listed below; however, your software may require a slightly different sequence if upgrading from a previous version.

1. Uninstall the currently installed version of Smart Data Validator.

   NOTE If you run the setup for the new version of Smart Data Validator before you have uninstalled the older version, you are prompted to uninstall Smart Data Validator before continuing.

2. From the product installation DVD, if the installation does not start automatically, double-click **SDV_setup.exe**.
3. In the **Welcome** window, click **Start Setup**.
4. In the **Details and Features** window, enter your **Serial Number**, **User Name**, and **Company**.
5. In the **Select Features To Install** section, select the components you want to install:

   IMPORTANT You can clear the check boxes for any software that you do not want to install. However, if this software installation is a modification to a previous installation, do not clear any selected check boxes unless you want those components to be uninstalled.

   The components available for you to install are:

   - **All Features** - Installs all components and configuration files.
   - **SDV**
     - **Server** - Installs all server components and configuration files.
     - **Client** - Installs all client components and configuration files.
   - **Target System Adapter** - Installs the target system adapter component and configuration files.

   IMPORTANT Smart Data Validator uses a target system adapter to connect to a target system. You must ensure that the target system adapter is installed to configure a site as a target system.

6. In the **Install Path** section, enter the path on the local server where the software is to be installed.
7. Click **Next**.
8. In the **License Agreement** window, from the **Country or Region** list, select your country or region.
9. Carefully read the licensing agreement. When you are finished, select **I agree to the license agreement and conditions**, and click **Install**.
10. Click **Finish** when the installation is complete.

    NOTE Check the .log file from the %temp% folder to ensure that the installation proceeded without errors. The log file records all of the installation progress and any errors that might have occurred during the install process.

Install Smart Data Validator target system adapter compatible with SmartPlant Foundation 2016

If you are going to use a target system that is installed with SmartPlant Foundation 2016 Hotfix 12 or later, you must use the following instructions to install the **SDV_setup.exe** file:

1. In the installation DVD, navigate to the TargetSystemAdapterForSPF2016 directory located at: *[CD drive]*\2018\TargetSystemAdapterForSPF2016, and double-click **SDV_setup.exe**.
2. In the **Welcome** window, click **Start Setup**.
3. In the **Details and Features** window, enter your **Serial Number**, **User Name**, and **Company**.
4. In the **Select Features To Install** section, select the components you want to install.

   The components available for you to install are:

   - **SDV**
     - **Target System Adapter** - Installs the target system adapter component and configuration files.
5. In the **Install Path** section, enter the path on the local server where the software is to be installed.
6. Click **Next**.
7. In the **License Agreement** window, from the **Country or Region** list, select your country or region.
8. Carefully read the licensing agreement. When you are finished, select **I agree to the license agreement and conditions**, and click **Install**.

   Click **Finish** when the installation is complete.

Update the Smart Data Validator staging system site on the SmartPlant Foundation application server

The Server Manager **Tools > Update Site** command updates all the files for the site with the latest files in the installation location.

Click **Tools > Update Site** to update the selected site.

TIP You can also right-click the selected site and click **Tools > Update Site** on the shortcut menu.

IMPORTANT The **Update Site** command updates a site as a primary site, which creates the new configuration and cache services if those are not present and updates the web.config file.

Upgrade the Smart Data Validator site

The SmartPlant Foundation Server Manager **Upgrade Wizard** allows you to upgrade the database and upgrade the configuration managed file (CMF). You can also create a backup of the database before the upgrade begins.

1. In Server Manager, right-click a site and click **Tools > Upgrade Wizard** from the quick menu.
2. In the **Upgrade Path** page, select your upgrade path from the list of available upgrades and click **Next**.

   IMPORTANT If an upgrade of the underlying SmartPlant Foundation has been performed, you must select both the SPF and the SDV options. We recommend that you upgrade SmartPlant Foundation first before upgrading Smart Data Validator.
3. In the **Upgrade Options** page, select the actions you would like the Upgrade Wizard to perform and click **Next**.
   - To upgrade and transform your data, click **Upgrade data in the database**.
     - To back up your database, click **Back up database before upgrade** and enter or browse to the location where you want the backup files to be saved.
     - The SDV staging site is unlikely to have any configuration managed files in it, but if it does, refer to *Upgrade the Smart Data Validator target system site* (on page 40).
     - To upgrade a SDV staging site, both SmartPlant Foundation and Smart Data Validator must be upgraded, and you should select the appropriate upgrade options from both the categories.
4. In the **Ready to Upgrade** window, review the scripts that the Upgrade Wizard is preparing to execute and click **Next** to begin the upgrade.

   NOTES
   - If the wizard runs a procedural SQL script (PL/SQL for Oracle or T-SQL for SQL Server), the tracing output for the script is saved to the Server Manager temp directory under the default root path in a separate log file, UpgradeWizardPLSQLOutput.log or UpgradeWizardTSQLOutput.log, depending on the type of script that was run. The script results are also written to the main log file, UpgradeWizardlog.xml.
   - Critical errors cause the upgrade to stop. Click **Back** to make changes to your upgrade selections.
   - Non-critical errors are logged, but the upgrade continues.
5. In the **Upgrade Results** window, click **Finish** to view the log file.

   NOTE Server Manager logs every action it performs in a log file called UpgradeWizardlog[date]-[time].xml saved in the temp directory under the default root path. For example, C:\SmartPlant Foundation\2018\ Server Files\Temp\ServerManager.

Update the Smart Data Validator site

After you have your site upgraded, you can update the site in SmartPlant Foundation Server Manager to use the latest files from the installation location.

1. Click **Tools > SDV > Update SDV Site** to update the site.
2. Click **Yes** to load the database scripts.
3. In the **Enter Database Credentials** dialog box, type the database username and password to which you are connecting.
4. Click **OK**.
5. In the **Select Tablespaces** dialog box, select the tablespace names from the **Data Tablespace** and **Index Tablespace** lists to load the database scripts for the Oracle database.

   NOTE When you create the site using SQL Server, the database scripts are loaded automatically.
6. Click **OK**.

NOTE To preserve existing customization settings during upgrade, two separate files, SettingsSDV.xml and SpecializationValuesSDV.xml, are available. The settings files are available at <*drive*>:\SmartPlant Foundation 2018 Server Files\Web_Sites\<*site_name*> and the specialization values files are available at <*drive*>:\SmartPlant Foundation 2018 Server Files\Web_Sites\<*site_name*>\SPFConfigService\SPFSharedSettings.

Upgrade the Smart Data Validator target system adapter

This section details how to upgrade the Smart Data Validator target system adapter.

Verify prerequisite software is installed

Before you upgrade Smart Data Validator on the SmartPlant Foundation application server, verify the installation of the prerequisite and recommended software.

For more information, see the *Smart Data Validator Hardware and Software Recommendations* (on page 13) or the SmartPlant Foundation hardware and software recommendations in the *SmartPlant Foundation Installation and Setup Guide* delivered with SmartPlant Foundation software.

Upgrade Smart Data Validator target system on the SmartPlant Foundation application server

Typically, the upgrade process involves the steps listed below; however, your software may require a slightly different sequence if upgrading from a previous version.

1. Uninstall the currently installed version of Smart Data Validator.

   NOTE If you run the setup for the new version of Smart Data Validator before you have uninstalled the older version, you are prompted to uninstall Smart Data Validator before continuing.

2. From the product installation DVD, if the installation does not start automatically, double-click **SDV_setup.exe**.
3. In the **Welcome** window, click **Start Setup**.
4. In the **Details and Features** window, enter your **Serial Number**, **User Name**, and **Company**.
5. In the **Select Features To Install** section, select the components you want to install:

   IMPORTANT You can clear the check boxes for any software that you do not want to install. However, if this software installation is a modification to a previous installation, do not clear any selected check boxes unless you want those components to be uninstalled.

   The component that you need to install is:

   - **SDV**
     - **Target System Adapter** - Installs the target system adapter component and configuration files.

6. In the **Install Path** section, enter the path on the local server where the software is to be installed.
7. Click **Next**.
8. In the **License Agreement** window, from the **Country or Region** list, select your country or region.
9. Carefully read the licensing agreement. When you are finished, select **I agree to the license agreement and conditions**, and click **Install**.
10. Click **Finish** when the installation is complete.

Install Smart Data Validator target system adapter compatible with SmartPlant Foundation 2016

If you are going to use a target system that is installed with SmartPlant Foundation 2016 Hotfix 12 or later, you must use the following instructions to install the **SDV_setup.exe** file:

1. In the installation DVD, navigate to the TargetSystemAdapterForSPF2016 directory located at: *[CD drive]*\2018\TargetSystemAdapterForSPF2016, and double-click **SDV_setup.exe**.
2. In the **Welcome** window, click **Start Setup**.
3. In the **Details and Features** window, enter your **Serial Number**, **User Name**, and **Company**.

4. In the **Select Features To Install** section, select the components you want to install.

   The components available for you to install are:

   - **SDV**
     - **Target System Adapter** - Installs the target system adapter component and configuration files.

5. In the **Install Path** section, enter the path on the local server where the software is to be installed.
6. Click **Next**.
7. In the **License Agreement** window, from the **Country or Region** list, select your country or region.
8. Carefully read the licensing agreement. When you are finished, select **I agree to the license agreement and conditions**, and click **Install**.
9. Click **Finish** when the installation is complete.

Update the Smart Data Validator target system site on the SmartPlant Foundation application server

The Server Manager **Tools > Update Site** command updates all the files for the site with the latest files in the installation location.

Click **Tools > Update Site** to update the selected site.

TIP You can also right-click the selected site and click **Tools > Update Site** on the shortcut menu.

IMPORTANT The **Update Site** command updates a site as a primary site, which creates the new configuration and cache services if those are not present and updates the web.config file.

Upgrade the Smart Data Validator target system site

The SmartPlant Foundation Server Manager **Upgrade Wizard** allows you to upgrade the database and upgrade the configuration managed file (CMF). You can also create a backup of the database before the upgrade begins.

1. In Server Manager, right-click a site and click **Tools > Upgrade Wizard** from the quick menu.
2. In the **Upgrade Path** page, select your upgrade path from the list of available upgrades and click **Next**.

   IMPORTANT If an upgrade of the underlying SmartPlant Foundation has been performed, you must select both the SPF and the SDV options. We recommend that you upgrade SmartPlant Foundation first before upgrading Smart Data Validator.

3. In the **Upgrade Options** page, select the actions you would like the Upgrade Wizard to perform and click **Next**.

   - To upgrade and transform your data, click **Upgrade data in the database**.
     - To back up your database, click **Back up database before upgrade** and enter or browse to the location where you want the backup files to be saved.

- To upgrade a modified or extended schema file (configuration managed file, or CMF), click Upgrade configuration managed file.

  IMPORTANT For both customized files and non-customized files, you must use the Desktop Client to check in the CMF when all upgrade actions are complete.

  - If you do not have a customized CMF, select **I don't have a customized CMF file**. If you do not have a customized CMF, you do not have to use the Upgrade Wizard to upgrade your CMF.
  - If you have a customized configuration managed file for this database, click **I have a customized CMF file** and browse to the location of your customized CMF. This file is the CMF that you checked out using Desktop Client. If you have not checked out this file using the Desktop Client, you must do so now.

    NOTE The **Delivered CMF File** box displays the default location of the history CMF delivered with the new version of the software, [drive]:\Program Files\SmartPlant\Foundation\2018\ServerManager\EFSchemaHistory.cmf. Your installation may differ.

4. In the **Ready to Upgrade** window, review the scripts that the Upgrade Wizard is preparing to execute and click **Next** to begin the upgrade.

   NOTES

   - If the wizard runs a procedural SQL script (PL/SQL for Oracle or T-SQL for SQL Server), the tracing output for the script is saved to the Server Manager temp directory under the default root path in a separate log file, UpgradeWizardPLSQLOutput.log or UpgradeWizardTSQLOutput.log, depending on the type of script that was run. The script results are also written to the main log file, UpgradeWizardlog.xml.
   - Critical errors cause the upgrade to stop. Click **Back** to make changes to your upgrade selections.
   - Non-critical errors are logged, but the upgrade continues.

5. In the **Upgrade Results** window, click **Finish** to view the log file.

   NOTE Server Manager logs every action it performs in a log file called UpgradeWizardlog[date]-[time].xml saved in the temp directory under the default root path. For example, C:\SmartPlant Foundation\2018\ Server Files\Temp\ServerManager.

Update the Smart Data Validator target system

After you have your site upgraded, you can update the site in SmartPlant Foundation Server Manager to use the latest files from the installation location.

1. Click **Tools > SDV > Update SDV Target System Adapter** to update the site.
2. Click **Yes** to load the database scripts.
3. In the **Enter Database Credentials** dialog box, type the database username and password to which you are connecting.
4. Click **OK**.
5. In the **Select Tablespaces** dialog box, select the tablespace names from the **Data Tablespace** and **Index Tablespace** lists to load the database scripts for the Oracle database.

NOTE When you create the site using SQL Server, the database scripts are loaded automatically.

6. Click **OK**.

NOTE To preserve existing customization settings during upgrade, two separate files, SettingsSDV.xml and SpecializationValuesSDV.xml, are available. The settings files are available at <*drive*>:\SmartPlant Foundation 2018 Server Files\Web_Sites\<*site_name*> and the specialization values files are available at <*drive*>:\SmartPlant Foundation 2018 Server Files\Web_Sites\<*site_name*>\SPFConfigService\SPFSharedSettings.

Upgrade the Smart Data Validator client workstation

The section details how to upgrade the Smart Data Validator client workstation.

Verify prerequisite software is installed

Before you upgrade Smart Data Validator on the SmartPlant Foundation application server, verify the installation of the prerequisite and recommended software.

For more information, see the *Smart Data Validator Hardware and Software Recommendations* (on page 13) or the SmartPlant Foundation hardware and software recommendations in the *SmartPlant Foundation Installation and Setup Guide* delivered with SmartPlant Foundation software.

Upgrade Smart Data Validator on the SmartPlant Foundation client workstation

Typically, the upgrade process involves the steps listed below; however, your software may require a slightly different sequence if upgrading from a previous version.

1. Uninstall the currently installed version of Smart Data Validator.

   NOTE If you run the setup for the new version of Smart Data Validator before you have uninstalled the older version, you are prompted to uninstall Smart Data Validator before continuing.

2. From the product installation DVD, if the installation does not start automatically, double-click **SDV_setup.exe**.
3. In the **Welcome** window, click **Start Setup**.
4. In the **Details and Features** window, enter your **Serial Number**, **User Name**, and **Company**.
5. In the **Select Features To Install** section, select **SDV > Client**.

   IMPORTANT You can clear the check boxes for any software that you do not want to install. However, if this software installation is a modification to a previous installation, do not clear any selected check boxes unless you want those components to be uninstalled.

   The component that you need to install is:

   - **SDV**
     - **Client** - Installs all client components and configuration files.

6. In the **Install Path** section, enter the path on the local server where the software is to be installed.
7. Click **Next**.
8. In the **License Agreement** window, from the **Country or Region** list, select your country or region.
9. Carefully read the licensing agreement. When you are finished, select **I agree to the license agreement and conditions**, and click **Install**.
10. Click **Finish** when the installation is complete.

TIP You can view the software read me file by selecting the **View Readme** option.

NOTE Check the .log file from the %temp% folder to ensure that the installation proceeded without errors. The log file records all of the installation progress and any errors that might have occurred during the install process.

APPENDIX A

Database Tablespace Management

The Smart Data Validator import mechanism creates a set of database tables for every job by executing a stored procedure, which names the tablespace that contains the tables in the staging database. A similar process is also used by the export functionality through the SmartPlant Foundation target system adapter. The export process uses a set of database tables known as the landing tables for each export of data, which are created for every job by using a stored procedure that names the tablespace.

The default Smart Data Validator workflow, Import Validate Export, is configured to drop the landing tables in both the target system and the staging tables. This behavior is configurable by using the workflow template to ensure that any job specific tables are removed and make the optimal usage of the tablespace. Deleting jobs from within the Smart Data Validator Job Management application also ensures that any database tables created for the job (either staging or SmartPlant Foundation target system), will also be removed.

If a job fails at any stage, the tables specific to that failed job remain in the database until they are deleted. For example, if the job fails validation, the tables used remain in the staging area. Similarly, if the job fails on export, the landing tables remain in the target system database.

NOTE It is important that you actively manage jobs in Smart Data Validator Job Management and remove tables by deleting any failed jobs. If you leave a lot of failed jobs, a significant amount of tablespace could be consumed.

The following table shows examples of tablespace usage that should be used only as a guide. These figures are only an approximation, as the tablespace used can differ with each input file and the type of mappings used.

Number of Tags	Details	Tablespace Consumed
250,000	Tags without any properties and only the name and relationships to other objects	2 GB
750,000	Tags with 2.6 million properties	13 GB

IMPORTANT Validation warnings and errors can also occupy a significant amount of tablespace for every job. For example, if you had a tag load input file and all the tags belonged to an area that does not exist, every tag will have an entry in the error table. This could consume a significant amount of tablespace, which remains in the database until the job is deleted.

APPENDIX B

Converting an Existing SmartPlant Foundation Site for Use with Smart Data Validator

If you already have an existing SmartPlant Foundation site that you would like to use as the target system for exports, Smart Data Validator supports using the same site as the staging area and the target system.

If you chose to use an existing SmartPlant Foundation site as the basis for your Smart Data Validator site in Server Manager, further steps are required to make the system operational with Smart Data Validator. You will need to perform the following procedures on the site:

- *Configuring an existing site for Smart Data Validator* (on page 45)
- *Configure the database settings* (on page 24)
- *Load configuration files* (on page 47)

Configuring an existing site for Smart Data Validator

1. In **SmartPlant Foundation Server Manager,** expand the **SmartPlant Foundation Sites** node.
2. Right-click the node for the site you want to configure for Smart Data Validator and click **SDV** > **Configure SDV** on the shortcut menu.
3. Click **Yes** to load the database scripts.
4. In the **Enter Database Credentials** dialog box, type the database username and password to which you are connecting.
5. Click **OK**.
6. In the **Select Tablespaces** dialog box, select the tablespace names from the **Data Tablespace** and **Index Tablespace** lists to load the database scripts for the Oracle database.

   NOTE When you create the site using SQL Server, the database scripts are loaded automatically.
7. Close SmartPlant Foundation Server Manager and recycle the application pools for your site using Internet Information Services (IIS) Manager to avoid database connection errors.

NOTES

- When you configure a site node for use with Smart Data Validator, two properties within the site's **Settings** node are changed. The **Is SDV configured?** property is set to **Yes** and the **Configured SDV Version** property displays the internal version number of Smart Data Validator. The Smart Data Validator module now appears in the main SmartPlant Foundation Dashboard window.

- To update a Smart Data Validator site with the latest .dll files and database scripts after an update or to resolve issues, right-click the **SDV** site node and click **Update SDV Site** on the shortcut menu. All server .dll files are installed on the site, database scripts are executed, and the configuration XML files are updated.

TIP We recommend that you perform a complete backup of your SmartPlant Foundation database when the new SDV sites have been created. For more information on backing up your database, see the *SmartPlant Enterprise Backup and Restore Guide* delivered with SmartPlant Foundation.

Configuring an existing site for the Smart Data Validator target system

1. In SmartPlant Foundation Server Manager, expand the **SmartPlant Foundation Sites** node.
2. Right-click the node for the site you want to configure for Smart Data Validator, and click **SDV > Configure SDV Target System Adapter** on the shortcut menu.
3. Click **Yes** to load the database scripts.
4. In the **Enter Database Credentials** dialog box, type the database username and password to which you are connecting.
5. Click **OK**.
6. In the **Select Tablespaces** dialog box, select the tablespace names from the **Data Tablespace** and **Index Tablespace** lists to load the database scripts for the Oracle database.

   NOTE When you create the site using SQL Server, the database scripts are loaded automatically.
7. Close SmartPlant Foundation Server Manager and recycle the application pools for your site using Internet Information Services (IIS) Manager to avoid database connection errors.

NOTES

- You can update the target system with the latest .dll files, database scripts, and .xml configuration files by right-clicking on the target system site node, and clicking **SDV** > **Update SDV Target System Adapter.**
- We recommend that you perform a complete backup of your SmartPlant Foundation database when the new SDV sites have been created. For more information on backing up your database, see the *SmartPlant Enterprise Backup and Restore Guide* delivered with SmartPlant Foundation.

Load configuration files

After creating the Smart Data Validator site, you will need to run a number of configuration files to modify the database.

Configuring the staging area

If your staging area is different from the supplied configuration database, VTL_DATA, you must load the Smart Data Validator configuration load files into the system. The Smart Data Validator configuration load files are located at: *<drive>*:\Program Files (x86)\Smart\SDV\2018\Model.

To load the configuration files, use the Loader in SmartPlant Foundation Desktop Client to process the load file, VTL.xmlldr.

For more information on using the Loader, see *Loader* in the *SmartPlant Foundation Desktop Client User's Guide*.

Configuring the target system site

Your SmartPlant Foundation target system will need some additional configuration before it can be used as a target system for Smart Data Validator. You must load the Smart Data Validator target system scheduler load files located at: *<drive>*:\Program Files (x86)\Smart\SDV\2018\Model.

To load the configuration files, use the Loader in SmartPlant Foundation Desktop Client to process the load file, VTLTargetSystem.xmlldr.

NOTE After processing the load file, be sure to close the SmartPlant Foundation Desktop Client and Server Manager and recycle the application pools for your site using Internet Information Services (IIS) Manager to avoid database connection errors.

For more information on using the Loader, see *Loader* in the *SmartPlant Foundation Desktop Client User's Guide*.

APPENDIX C

Manually loading the Stored Procedures

IMPORTANT Each Smart Data Validator database user must have create table access granted by the system administrator to both the staging area and the target system databases for basic Smart Data Validator operation.

For example, when using an Oracle database, connect to the database as the system administrator and execute the following SQL statement:

```
grant create table to vtl_data;
```

Modifying Smart Data Validator site stored procedures

Stored procedures are an integral part of both the Smart Data Validator staging area and the target system implementation. After you have created and configured the Smart Data Validator site in SmartPlant Foundation Server Manager, you must update each stored procedure so that they match the correct index, name, and data table spaces.

IMPORTANT If you are upgrading Smart Data Validator, the stored procedures may have changed and require a manual update. Always refer to the release notes or read me file for any changes.

The installed stored procedure files are located at:

[drive]:\Program Files (x86)\Smart\SDV\2018\Database*[your applicable database type]*\Stored Procedures\Staging.

For example

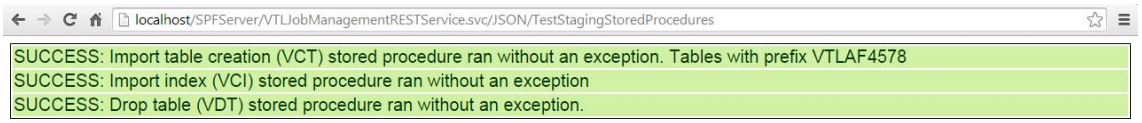
```
create or replace PROCEDURE VCI
varDataUserName  VARCHAR2(30) :=    'VTL_DATA';
varIndexTableSpace  VARCHAR2(30) :=   'VTL_IDX';

create or replace PROCEDURE VCT
varDataTableSpace  VARCHAR2(30) :=    'VTL_DATA';
```

Test Smart Data Validator staging stored procedures

You can test that the Smart Data Validator staging area stored procedures have been successfully installed using a web call URL. This test checks that the staging area database has the correct stored procedures installed and that they are working correctly. To run the test, type the following URL into your bowser:

```
http://HOST_MACHINE/SERVERURL/VTLJobManagementRESTService.svc/JSON/TestStagingStoredProcedures
```

The test results will show any exceptions that occur while trying to run the staging area stored procedures.



TIP This Smart Data Validator staging stored procedures test can be run at any time after installation.

Modifying target system site stored procedures

Stored procedures are an integral part of both the Smart Data Validator staging area and the target system implementation. After you have created and configured the Smart Data Validator site in SmartPlant Foundation Server Manager, you must update each stored procedure so that they match the correct index, name, and data table spaces.

IMPORTANT If you are upgrading Smart Data Validator, the stored procedures may have changed and require a manual update. Always refer to the release notes or read me file for any changes.

The procedure files are located at *[drive]*:\Program Files (x86)\Smart\SDV\2018\Database*[your applicable database type]*\Stored Procedures\Target.

For example

```
create or replace PROCEDURE ICI
varDataUserName  VARCHAR2(30) :=    'VTL_DATA';
varIndexTableSpace  VARCHAR2(30) :=    'VTL_IDX';

create or replace PROCEDURE ICT
varDataTableSpace  VARCHAR2(30) :=    'VTL_DATA';

create or replace PROCEDURE TCI
varDataUserName  VARCHAR2(30) :=    'VTL_DATA';
varIndexTableSpace  VARCHAR2(30) :=    'VTL_IDX';

create or replace PROCEDURE TCT
varDataTableSpace  VARCHAR2(30) :=    'VTL_DATA';

create or replace PROCEDURE TCFI
varDataUserName  VARCHAR2(30) :=    'VTL_DATA';
varIndexTableSpace  VARCHAR2(30) :=    'VTL_IDX';
```

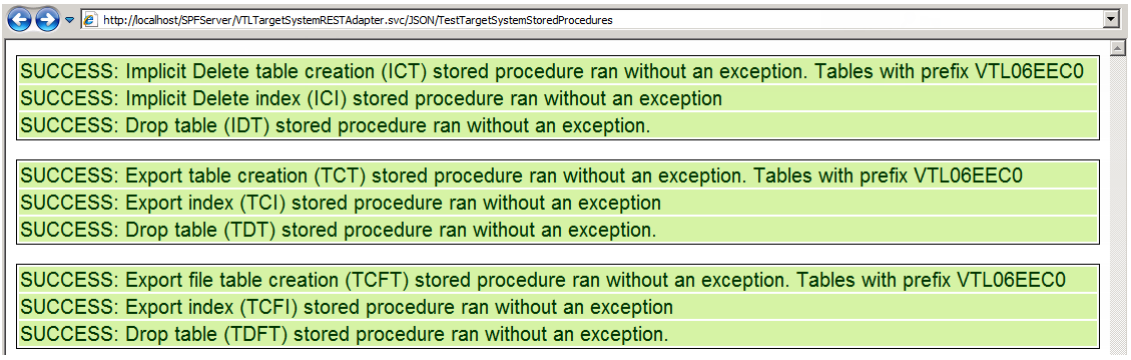
```
create or replace PROCEDURE TCFT
varDataTableSpace  VARCHAR2(30) :=    'VTL_DATA';
```

Test target system stored procedures

You can test that the Smart Data Validator target system stored procedures have been successfully installed using a web call URL. This test checks that the target system database has the correct stored procedures installed and that they are working correctly. To run the test, type the following URL into your browser:

```
http://HOST_MACHINE/SERVERURL/VTLTargetSystemRESTAdapter.svc/JSON/TestTargetSystemStoredProcedures
```

The test results will show any exceptions that occur while trying to run the target system stored procedures.



TIP This Smart Data Validator target system stored procedures test can be run at any time after installation.

APPENDIX D

Running Server Manager Commands from the Command Line

Some common Server Manager commands can be executed using the Windows command prompt.

NOTE The Server Manager executable file, **Servermanager.exe**, is delivered within the product installation folder. By default, it is located at *[drive]*:\Program Files (x86)\SmartPlant\Foundation\2018\ServerManager, but this location can be changed during installation.

IMPORTANT You can only create a new site using the command line when there is an existing database.

Command line arguments

NOTE For arguments that take a value, use single quotation marks around the value if there are spaces in the string. For example: /rp:'c:/SmartPlant Foundation 2018 Server Files'

To create a Smart Data Validator site, you must run the following commands in any order:

/createsdv - creates a new site.

/sn: - names the new site; "server" is appended to the name automatically (required).

/db: - identifies the database type, either Oracle or SQL Server, not case-sensitive (required).

/dsn: - identifies the data source or TNS name (required).

/u: - identifies the database user name (required).

/p: - identifies the database password (required).

This example creates a site called SDV2015 that connects to an Oracle database named SDVData1.

```
servermanager.exe /createsdv /sn:SDV2015 /db:Oracle /dsn:SDVData1
/u:SDV2015_Data /p:password
```

The following arguments are optional when creating a new site:

/ic: - identifies the initial catalog value (required for SQL Server).

/rp: - sets the root path location (optional. Use only if the path is not already set on the server). For example: /rp:'c:/SmartPlant Foundation 2018 Server Files'

/ls: - identifies the license server URL (optional). For example: /ls:http://localhost/MyLicense

Use the following command to configure a Smart Data Validator site:

```
/configuresdv /sn:[SiteName]
```

Using the following command to configure a Smart Data Validator target system adapter:

```
/configuresdvtargetsystemadapter /sn:[SiteName]
```

Use the following command to update a Smart Data Validator site:

```
/updatesdv /sn:[SiteName]
```

Use the following command to update a Smart Data Validator target system adapter:

```
/updatesdvtargetsystemadapter /sn:[SiteName]
```

APPENDIX E

Configuring Timeout and Other Settings for Exporting Large Data Sets

When exporting large data sets using Smart Data Validator, the timeout settings must be increased in the Server Manager **Settings** node, the web.config file, and the IIS Application Server Manager in both the staging and target sites.

For example, for a data set of 50,000 documents with attached files that are less than 1 KB, the following changes are recommended for successful export of data:

File name and location	Property	Recommended value
Site Settings node in SmartPlant Foundation Server Manager	FileServiceTimeout	300000 seconds
	InternalRequestTimeout	108000000 milliseconds
	DBCommandTimeoutSeconds	108000 seconds
	VTLExportFileUploadTimeout	108000000 milliseconds
Web.config file located at [*Install drive*]\SmartPlant Foundation 2018 Server Files\Web_Sites\[*your_SDVsite_name*]	httpRuntime executionTimeout	108000 seconds
	closeTimeout, openTimeout, receiveTimeout, and sendTimeout of netNamedPipeBinding, netTcpBinding, netTcpBindingNoSecurity	04:00:00 (hh:mm:ss)
	closeTimeout of WebHttpBinding	00:59:00 (hh:mm:ss)
IIS Application Pools **Advanced Settings**	IdleTime-out (minutes) for site	0
	Maximum Worker Processes for site	4
	IdleTime-out (minutes) for site FileService	0

NOTE If you are creating a Smart Data Validator site using SQL Server, for exporting a large data set of 150,000 tags or documents, it is recommended that the **Connection Timeout** property in the **Site Settings** node in the SmartPlant Foundation Server Manager be set to 1200 seconds or more.

Glossary

actions

An indicator of what Smart Data Validator will do with the object data in the validation and export process, such as update and delete. These kinds of operations vary, depending on whether the column header is mapped to an object, a property, or a relationship.

auto-generate

An option to automatically generate validation rule definitions, export mappings, and rules, based on actions. The validation rules are used to validate imported and exported data and the export mappings ensure that the column headers match the objects and properties found in the target system.

brownfield

An existing project or area that has constraints imposed due to prior work and contains existing data.

cardinality

A setting on a relationship definition that specifies how many instances of a relationship are valid for the objects at the end of the relationship. For example, a tag cannot exist without a primary classification relationship, and also cannot have more than one primary classification.

column headers

They are used in Smart Data Validator as the basis for mapping new data in columns to match an existing structured database.

configuration tree

A representation in a tree list, which may include plant, areas, units, and projects, that indicates the structure in which the data is stored in SmartPlant Foundation.

CSV file

A comma-separated value (CSV) file, which stores tabular data in plain-text format.

data files

A job can process multiple input files and therefore use multiple input mappings. Import mappings are defined on the job definition.

export mapping

The process that maps the imported objects, classes, and properties to the existing structure of the objects, classes, and properties found in a target system.

export process

The Export process uses a defined mapping, based on the structure of the target system, to manage the loading of the data into the final destination system.

function

A computed functional code run at import, where the output value of a function depends only on the arguments that are input to the function.

greenfield

A project or area that is completely new and does not have any constraints imposed by prior work or existing data.

implicit delete

A component process used by Smart Data Validator, where a user can decide to implicitly delete or terminate a group of objects from the target system, because they are no longer in the supplied input data submission.

import definition

A defined mapping of imported file objects, properties, and relationships from existing column headers to objects, properties, and relationships found in the staging area database during the import process.

import process

The process that manages the import of data in the data file or files to the staging area database using a defined mapping.

inverted CSV file

See *raw attribute format* (on page 56).

job

A defined object that carries information for the progress of data through a selected workflow in Smart Data Validator Job Management, such as when data is imported, validated, and exported to a target system.

job definition

A combined set of components configured for the import, validation, and export of data to a specific target system or multiple target systems.

mapping

A defined process where data is correlated from existing column headers for the objects, properties, and relationships in the imported data to the correct column headers for the objects, properties, and relationships found in another database, such as the staging database or target system. For more information, see *import definition* (on page 55) and *export mapping* (on page 54).

object weighting

A process that emphasizes the contribution of an object in a set of data to a final effect or result, thereby deciding its weight in the analysis. This affects the order in which the data is exported, helping to achieve the desired result.

query definition

A comma separated list of properties that can be entered in the **Target System Query Definition** field, which identifies the object in the target system along with the class definition. These properties can be retrieved by navigating the relationships.

raw attribute format

Where the data in a CSV file is organized in a vertical format and each row contains properties and relationships for the same object. The data in a standard CSV file is typically organized horizontally. Also referred to as an inverted CSV file.

relationship definition

A defining object that relates items together in a database which are stored in different tables.

relationship property

A property on the link interface which is part of the relationship definition. The link interface allows properties to be created on the relationship itself.

rules

A logical formula used to evaluate and verify whether the data in an imported record meets the requirements and data standards specified for the target database system.

rulesets

A combined set of rules that can be run as a set during job processing.

SDV

Smart Data Validator, the software used for importing data into the staging area, validating the data, and/or exporting data to a target system.

staging

The staging or staging area or staging database used is the first part of a combined set of processes in Smart Data Validator, where imported data is held and validated before being exported to a Smart Data Validator site.

target system

The system or database used as the destination for exported data that has been validated before export. It is also used as the basis for creating import mappings, implicit delete, and validation rules.

terminate

The action of changing an object's status to terminated without removing it from the database. Terminating objects, instead of deleting them, allows you to continue to see the history of the object after termination.

UID

Unique Identifier is used to uniquely identify an object within a system. UID definitions must be set on all objects that Smart Data Validator exports from the staging area if the unique key or query definition is left blank. The staging area UID definitions must match the UID definitions in the target system.

unique key

A set of values guaranteed to be unique for each object in a relation, and can be used to identify objects in the target system.

URL

A Uniform resource locator is a web address that contains a specific character string that references a resource.

validation process

A process that evaluates the imported data against a defined set of rules to ensure the validity of the data.

validation rule

A logical formula used to evaluate the imported data in one or more fields to determine whether it matches the existing criteria and hierarchy found in the target system database. There are two types of validation rules:

1. Rules that determine if the data is valid for the target system schema (these rules can be autogenerated.
2. Rules that determine if the data meets specific business criteria, such as naming format.

Index