

*IBM SPSS Modeler Administration
Console 17.1 User Guide*

IBM

Note

Before using this information and the product it supports, read the information in "Notices" on page 23.

Product Information

This edition applies to version 17, release 1, modification 0 of IBM(r) SPSS(r) Modeler and to all subsequent releases and modifications until otherwise indicated in new editions.

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Preface

IBM® SPSS® Modeler is the IBM Corp. enterprise-strength data mining workbench. SPSS Modeler helps organizations to improve customer and citizen relationships through an in-depth understanding of data. Organizations use the insight gained from SPSS Modeler to retain profitable customers, identify cross-selling opportunities, attract new customers, detect fraud, reduce risk, and improve government service delivery.

SPSS Modeler's visual interface invites users to apply their specific business expertise, which leads to more powerful predictive models and shortens time-to-solution. SPSS Modeler offers many modeling techniques, such as prediction, classification, segmentation, and association detection algorithms. Once models are created, IBM SPSS Modeler Solution Publisher enables their delivery enterprise-wide to decision makers or to a database.

About IBM Business Analytics

IBM Business Analytics software delivers complete, consistent and accurate information that decision-makers trust to improve business performance. A comprehensive portfolio of business intelligence, predictive analytics, financial performance and strategy management, and analytic applications provides clear, immediate and actionable insights into current performance and the ability to predict future outcomes. Combined with rich industry solutions, proven practices and professional services, organizations of every size can drive the highest productivity, confidently automate decisions and deliver better results.

As part of this portfolio, IBM SPSS Predictive Analytics software helps organizations predict future events and proactively act upon that insight to drive better business outcomes. Commercial, government and academic customers worldwide rely on IBM SPSS technology as a competitive advantage in attracting, retaining and growing customers, while reducing fraud and mitigating risk. By incorporating IBM SPSS software into their daily operations, organizations become predictive enterprises – able to direct and automate decisions to meet business goals and achieve measurable competitive advantage. For further information or to reach a representative visit <http://www.ibm.com/spss>.

Technical support

Technical support is available to maintenance customers. Customers may contact Technical Support for assistance in using IBM Corp. products or for installation help for one of the supported hardware environments. To reach Technical Support, see the IBM Corp. web site at <http://www.ibm.com/support>. Be prepared to identify yourself, your organization, and your support agreement when requesting assistance.

Chapter 1. Getting started

Administered servers

Server administration in IBM SPSS Collaboration and Deployment Services Deployment Manager involves:

1. Adding the server to be administered to the system.
2. Logging in to the server being administered.
3. Performing administrative tasks for the server as needed.
4. Logging off from the server being administered.

The Server Administration tab offers access to this functionality. This tab lists the servers currently available to be administered. This list persists across IBM SPSS Collaboration and Deployment Services Deployment Manager sessions, facilitating access to those servers.

From the menus choose:

Tools > Server Administration

The administered server list may include a variety of server types, including IBM SPSS Collaboration and Deployment Services Repository servers, IBM SPSS Modeler servers, and IBM SPSS Statistics servers. The actual administrative functionality available for a server depends on the server type. For example, security providers can be configured and enabled for repository servers but not for IBM SPSS Modeler servers.

Adding new administered servers

Before performing administrative tasks, a connection to the administered server must be established.

From the menus choose:

File > New > Administered Server Connection

The Add New Administered Server dialog box opens. Adding a new connection requires the specification of the administered server type and the administered security server information.

Selecting the administered server name and type

The first step of adding a new administered server to the system involves the definition of the name and type for the server.

Name. A label used to identify the server on the Server Administration tab. Including the port number in the name, such as *my_server:8080*, may help to identify the server in the administered server list.

Note: Alphanumeric characters are recommended. The following symbols are prohibited:

- Quotation marks (single and double)
- Ampersands (&)
- Less-than (<) and greater-than (>) symbols
- Forward slash (/)
- Periods
- Commas

- Semicolons

Type. The type of server being added. The list of possible server types depends on the system configuration and may include:

- IBM SPSS Collaboration and Deployment Services Repository Server
- Administered IBM SPSS Modeler Server
- Administered IBM SPSS Statistics Server
- Administered IBM SPSS Modeler Text Analytics Server

Selecting an administered server type

In the Select Administered Server Type dialog box:

1. Enter a name for the server.
2. Select the server type.
3. Click **Next**. The Administered Server Information dialog box opens.

Administered server information

The second step of adding a new administered server to the system involves the definition of the server properties.

For an IBM SPSS Collaboration and Deployment Services Repository server, you can specify the server URL.

The URL includes the following elements:

- The connection scheme, or protocol, as either *http* for hypertext transfer protocol or *https* for hypertext transfer protocol with the secure socket layer (SSL)
- The host server name or IP address

Note: An IPv6 address must be enclosed in square brackets, such as [3ffe:2a00:100:7031::1].

- The port number. If the repository server is using the default port (port 80 for http or port 443 for https), the port number is optional.
- An optional custom context path for the repository server

Table 1. Example URL specifications. This table lists some example URL specifications for server connections.

URL	Scheme	Host	Port	Custom path
http://myserver	HTTP	<i>myserver</i>	default (80)	(none)
https://9.30.86.11:443/spss	HTTPS	9.30.86.11	443	<i>spss</i>
http://[3ffe:2a00:100:7031::1]:9080/ibm/cds	HTTP	3ffe:2a00:100:7031::1	9080	<i>ibm/cds</i>

Contact your system administrator if you are unsure of the URL to use for your server.

For other server types, available properties include the following items:

Host The name or IP address of the server.

Note: Alphanumeric characters are recommended. The following symbols are prohibited:

- Quotation marks (single and double)
- Ampersands (&)
- Less-than (<) and greater-than (>) symbols
- Forward slash (/)

- Periods
- Commas
- Semicolons

Port The port number that is used for the server connection.

This is a secure port.

Enables or disables the use of a Secure Sockets Layer (SSL) for the server connection. This option is not offered for all types of administered servers.

Note: To use the Administration Console with a server setup for SSL, you must import any certificates required by Modeler Server into the Deployment Manager trust store (under `../jre/lib/security`).

After you define the properties, the new server is included in the administered server list on the Server Administration tab.

Viewing administered server properties

To view the properties of an existing administered server, right-click the server on the Server Administration tab and select **Properties** from the drop-down menu.

The displayed properties depend on the type of server selected.

IBM SPSS Modeler Server Properties

For IBM SPSS Modeler servers, the properties include:

- **Server name.** Name of the machine on which IBM SPSS Modeler server is installed.
- **Server version.** Version of IBM SPSS Modeler server.
- **Server operating system.** Operating system of the machine on which IBM SPSS Modeler server is installed.
- **Server memory.** Amount of RAM available on the machine on which IBM SPSS Modeler server is installed..
- **Available processors.** Number of processors available on the IBM SPSS Modeler server machine.

Properties for IBM SPSS Modeler servers cannot be modified.

Connecting to administered servers

For most servers, you must connect to a server in the administered server list to perform administrative tasks. From the Server Administration tab, double-click the server to administer.

Disconnecting administered servers

After completing your administrative tasks, log off from the server.

1. On the Server Administration tab, right-click the server.
2. Select **Logoff**.

To administer the server, you must log in again.

Deleting administered servers

A server appears in the administered server list until it is deleted from the list.

1. On the Server Administration tab, select the server to delete.
2. From the menus choose:
Edit > Delete

Alternatively, right-click the server and select **Delete** from the drop-down menu.

If further administrative tasks for the server are needed in the future, the server will need to be added to the system again.

Chapter 2. Installing IBM SPSS Modeler Administration Console

The following instructions are for installing IBM SPSS Modeler Administration Console. For a description of Modeler Administration Console, see Chapter 3, “Using IBM SPSS Modeler Administration Console,” on page 7.

System Requirements for Modeler Administration Console

To view the system requirements for Modeler Administration Console, go to <http://www.ibm.com/software/analytics/spss/products/modeler/requirements.html>.

Note: Modeler Administration Console can be installed only on Windows computers; however, it can administer an SPSS Modeler Server installed on any supported platform.

- **SPSS Modeler software.** SPSS Modeler Server release 12.0 or newer must be installed on the network.
- **Additional requirements.** The IBM SPSS Modeler Administration Console host computer must have network connectivity to the computer hosting IBM SPSS Modeler Server.

Installing Modeler Administration Console

To Install Modeler Administration Console

1. Insert the SPSS Modeler Server installation disk into your disk drive. The AutoPlay feature presents a menu.
2. On the AutoPlay menu, click *Install Modeler Administration Console* and then follow the instructions that appear on the screen.
3. To start the console, follow the instructions under “Starting Modeler Administration Console” on page 7.

To Use an Existing Deployment Manager Installation

If you have already installed a version of Deployment Manager to administer other server applications from IBM Corp., you can add the SPSS Modeler Server administration functionality to your existing Deployment Manager installation.

Follow the procedure shown under *To Install Modeler Administration Console*, being sure to install in the same directory as your existing IBM SPSS Collaboration and Deployment Services Deployment Manager installation (for example, *C:\Program Files\IBM\SPSS\Collaboration and Deployment Services\4.<n>\Deployment Manager*). The installer will add the new IBM SPSS Modeler Server files to the existing installation.

Chapter 3. Using IBM SPSS Modeler Administration Console

The Modeler Administration Console application provides a console user interface to monitor and configure your SPSS Modeler Server installations, and is available free-of-charge to current SPSS Modeler Server customers. The application can be installed only on Windows computers; however, it can administer a server installed on any supported platform.

Many of the options available through Modeler Administration Console can also be specified in the *options.cfg* file, which is located in the SPSS Modeler Server installation directory under */config*. However, the Modeler Administration Console application provides a shared graphical interface that allows you to connect, configure, and monitor multiple servers.

Starting Modeler Administration Console

From the Windows Start menu, choose [All] Programs, then IBM SPSS Collaboration and Deployment Services, then Deployment Manager, then IBM SPSS Modeler Administration Console <nn.n>.

When you first run the application, you see empty Server Administration and Properties panes (unless you already have Deployment Manager installed with an IBM SPSS Collaboration and Deployment Services server connection already set up). After you configure Modeler Administration Console, the Server Administrator pane on the left displays a node for each SPSS Modeler Server that you want to administer. The right-hand pane shows the configuration options for the selected server. You must first set up a connection for each server that you want to administer.

Configuring Access with Modeler Administration Console

Administrator access to SPSS Modeler Server through Modeler Administration Console is controlled with the *administrators* line in the *options.cfg* file, located in the SPSS Modeler Server installation directory under */config*. This line is commented out by default, so you must edit this line to allow access to specific people, or use * to allow access to all users, as shown in the following examples:

```
administrators, "*"
administrators, "jsmith,mjones,achavez"
```

- The line must begin with *administrators*, and the entries must be contained in quotation marks. Entries are case sensitive.
- Separate multiple user IDs with commas.
- For Windows accounts, do not use domain names.
- Use the asterisk with care. It allows anyone with a valid user account for IBM SPSS Modeler Server (which, in most cases, is anyone on the network) to log in and change the configuration options.

Configuring Access with User Access Control

To use the Modeler Administration Console to make updates to a SPSS Modeler Server configuration installed on a Windows machine that has User Access Control (UAC) enabled you must have read, write, and execute permissions defined on the *config* directory and on the *options.cfg* file. These (NTFS) permissions must be defined at the specific user level and not at group level, this is due to the way that UAC and NTFS permissions interact.

SPSS Modeler Server Connections

You must specify a connection to each SPSS Modeler Server on your network that you want to administer. You must then log in to each server. Although the server connection is remembered across Modeler Administration Console sessions, the login credentials are not. You must log in every time you start Modeler Administration Console.

To Set Up a Server Connection

1. Ensure that the IBM SPSS Modeler Server service is started.
2. From the File menu, choose **New** and then **Administered Server Connection**.
3. On the first page of the wizard, enter a name for your server connection. The name is for your own use and should be something descriptive; for example, *Production Server*. Ensure that Type is set to **Administered IBM SPSS Modeler Server**, then click **Next**.
4. On the second page, enter the hostname or IP address of the server. If you have changed the port from the default, enter the port number. Click **Finish**. The new server connection is shown in the Server Administrator pane.

To perform administration tasks, you must now log in.

To Log in to the Server

1. In the Server Administrator pane, double-click to select the server to which you want to log in.
2. In the Login dialog box, enter your credentials. (Use your user account for the server host.) Click **OK**.

If the login fails with the message **Unable to obtain administrator rights on server**, the most likely cause is that administrator access has not been configured correctly. See the topic “Configuring Access with Modeler Administration Console” on page 7 for more information.

If the login fails with the message **Failed to connect to server '<server>'**, make sure that the user ID and password are correct, then make sure that the IBM SPSS Modeler Server service is running. For example, under Windows, go to Control Panel > Administrative Tools > Services and check the entry for IBM SPSS Modeler Server. If the Status column does not show **Started**, select this line on the screen and click **Start**, then retry the login.

Once you log in to your IBM SPSS Modeler Server, two options are shown below the server name, Configuration and Monitoring. Double-click one of these options.

SPSS Modeler Server Configuration

The Configuration pane shows configuration options for SPSS Modeler Server. Use this pane to change the options as desired. Click **Save** on the toolbar to save the changes. (Note that changing the port number requires a server restart in order to take effect.)

The options are described in the following sections, with the corresponding line in `options.cfg` given in parentheses for each option. Options that are visible only in `options.cfg` are described at the end of this section.

Note: If a non-root user wants to change these options, write permission is required for the SPSS Modeler Server **config** directory.

Connections/Sessions

Maximum number of connections. (`max_sessions`) Maximum number of server sessions at one time. A value of -1 indicates no limit.

Port number. (port_number) The port number for SPSS Modeler Server to listen on. Change if another application already uses the default. End users must know the port number in order to use SPSS Modeler Server.

Analytic Server Connection

Enable Analytic Server SSL (as_ssl_enabled) Specify Y to encrypt communications between Analytic Server, and SPSS Modeler otherwise, N.

Host (as_host) The IP address of the Analytic Server.

Port Number (as_port) The Analytic Server port number.

Context Root (as_context_root) The context root of the Analytic Server.

Tenant (as_tenant) The tenant that the SPSS Modeler Server installation is a member of.

Prompt for Password (as_prompt_for_password) Specify N if the SPSS Modeler Server is configured with the same authentication system for users and passwords as the system that is used on Analytic Server; for example, when you use Kerberos authentication, otherwise, Y.

Note: If you intend to use Kerberos SSO, you must set extra options in the options.cfg file. For more information, see the topic "Options visible in options.cfg " later in this chapter.

Data file access

Restrict access to only data file path. (data_files_restricted) When set to **yes**, this option restricts data files to the standard data directory and those listed in the **Data File Path** below.

Data file path. (data_file_path) A list of additional directories to which clients are allowed to read and write data files. This option is ignored unless the **Restrict Access to Only Data File Path** option is turned on. Note that you should use forward slashes in all path names. On Windows, specify multiple directories using semicolons (for example, [server install path]/data;c:/data;c:/temp). On Linux and UNIX, use colons (:) instead of semicolons. The data file path must include any path(s) specified by the temp_directory parameter described below.

Restrict access to only program files path. (program_files_restricted) When set to **yes**, this option restricts program file access to the standard bin directory and those listed in the **Program files path** below. As of release 17, the only program file to which access is restricted is the Python executable (see the **Python executable path** below).

Program files path. (program_file_path) A list of additional directories from which clients are allowed to execute programs. This option is ignored unless the **Restrict Access to Only Program Files Path** option is turned on. Note that you should use forward slashes in all pathnames. Specify multiple directories using semicolons.

Maximum file size (MB). (max_file_size) Maximum size of temporary and exported data files created during stream execution (does not apply to SAS and SPSS Statistics data files). A value of -1 indicates no limit.

Temporary directory. (temp_directory) The directory used to store temporary data files (cache files). Ideally, this directory should be on a separate high-speed drive or controller because speed of access to this directory may have a significant impact on performance. You may specify multiple temporary directories, separating each with a comma. These should be located on different disks; the first directory is used most often, and additional directories are used to store temporary work files when certain data

preparation operations (such as sort) use parallelism during execution. Allowing each execution thread to use separate disks for temporary storage can improve performance. Use forward slashes in all path specifications.

Note: Temporary files are generated in this directory during startup of SPSS Modeler Server. Ensure that you have the necessary access rights to this directory (for example, if the temporary directory is a shared network folder), otherwise SPSS Modeler Server startup will fail.

Python executable path. (`python_exe_path`) Full path to the Python executable including the executable name. If access to program files is restricted, then you must add the directory containing the Python executable to the program files path (see **Restrict access to only program files path** above).

Performance/Optimization

Stream rewriting. (`stream_rewriting_enabled`) Allows the server to optimize streams by rewriting them. For example, the server might push data reduction operations closer to the source node to minimize the size of the dataset as early as possible. Disabling this option is normally recommended only if the optimization causes an error or other unexpected results. This setting overrides the corresponding client optimization setting. If this setting is disabled in the server, then the client cannot enable it. But if it is enabled in the server, the client can choose to disable it.

Parallelism. (`max_parallelism`) Describes the number of parallel worker threads that SPSS Modeler is allowed to use when running a stream. Setting this to 0 or any negative number causes IBM SPSS Modeler to match the number of threads to the number of available processors on the computer; the default value for this option is -1. To turn off parallel processing (for machines with multiple processors), set this option to 1. To allow limited parallel processing, set it to a number smaller than the number of processors on your machine. Note that a hyperthreaded or dual-core processor is treated as two processors.

Buffer size (bytes). (`io_buffer_size`) Data files transferred from the server to the client are passed through a buffer of this number of bytes.

Cache compression. (`cache_compression`) An integer value in the range 0 to 9 that controls the compression of cache and other files in the server's temporary directory. Compression reduces the amount of disk space used, which can be important when space is limited, and improves performance by reducing the amount of disk activity needed to create and read the cache. Compression increases processor time, but this is almost always made up by the reduction in disk access time. Note that only certain caches, those accessed sequentially, can be compressed. This option does not apply to random-access caches, such as those used by the network training algorithms. A value of 0 disables compression entirely. Values from 1 upward provide increasing degrees of compression but with a corresponding cost in access time. The default value is 1; higher values are rarely needed except where disk space is at a premium.

Memory usage multiplier. (`memory_usage`) Controls the proportion of physical memory allocated for sorting and other in-memory caches. The default is 100, which corresponds to approximately 10% of physical memory. Increase this value to improve sort performance where free memory is available, but be careful of increasing it so high as to cause excessive paging.

Modeling memory limit percentage. (`modelling_memory_limit_percentage`) Controls the proportion of physical memory allocated for training Kohonen and *k*-means models. The default is 25%. Increase this value to improve training performance where free memory is available, but be careful of increasing it so high as to cause excessive paging when data spills onto the disk.

Allow modeling memory override. (`allow_modelling_memory_override`) Enables or disables the **Optimize for Speed** option in certain modeling nodes. The default is enabled. This option allows the modeling

algorithm to claim all available memory, bypassing the percentage limit option. You may want to disable this if you need to share memory resources on the server machine.

Maximum and minimum server port. (`max_server_port` and `min_server_port`) Specifies the range of port numbers that can be used for the additional socket connections between client and server that are required for interactive models and stream execution. These require the server to listen on another port; not restricting the range could cause problems for users on systems with firewalls. Default value for both is `-1`, meaning "no restriction." Thus, for example, to set the server to listen on port 8000 or above, you would set `min_server_port` to 8000 and `max_server_port` to `-1`.

Note that you must open additional ports over the main server port to open or execute a stream, and correspondingly more ports if you want to open or execute concurrent streams. This is required in order to capture feedback from the stream execution.

By default, IBM SPSS Modeler will use any open port that is available; if it does not find one (for example, if they are all closed by a firewall), an error is displayed when you execute the stream. To configure the range of ports, IBM SPSS Modeler will need two open ports (in addition to the main server port) available per concurrent stream, plus 3 additional ports for each ODBC connection from within any connected client (2 ports for the ODBC connection for the duration of that ODBC connection, and an additional temporary port for authentication).

Note: An ODBC connection is an entry in the database connections list, and can be shared between multiple database nodes specified with the same database connection.

Note: It is possible that the authentication ports can be shared if the connections are made at different times).

Note: Best practice dictates that the same ports should be used to communicate with both IBM SPSS Collaboration and Deployment Services and SPSS Modeler Client. These can be set as `max_server_port` and `min_server_port`.

Note: If you change these parameters, you need to restart SPSS Modeler Server for the change to take effect.

Array fetch optimization. (`sql_row_array_size`) Controls the way that SPSS Modeler Server fetches data from the ODBC datasource. The default value is 1, which fetches a single row at a time. Increasing this value causes the server to read the information in larger chunks, fetching the specified number of rows into an array. With some operating system/database combinations, this can result in improvements to the performance of SELECT statements.

SQL

Maximum SQL string length. (`max_sql_string_length`) For a string imported from the database with SQL, the maximum number of characters that are guaranteed to be passed successfully. Depending on the operating system, string values longer than this may be truncated on the right without warning. The valid range is between 1 and 65,535 characters. This property also applies to the Database export node.

Note: The default value for this parameter is 2048. If the text you are analyzing is longer than 2048 characters (for example, this may occur if using the SPSS Modeler Text Analytics Web Feed node) we recommend increasing this value if working in native mode otherwise your results may be truncated. If you are using a database and user-defined functions (UDF), this restriction does not occur; this can account for differences in results between native and UDF modes.

Automatic SQL generation. (`sql_generation_enabled`) Allows automatic SQL generation for streams, which may substantially improve performance. The default is enabled. Disabling this option is recommended only if the database is not able to support queries submitted by SPSS Modeler Server. Note

that this setting overrides the corresponding client optimization setting; also note that for purposes of scoring, SQL generation must be enabled separately for each modeling node regardless of this setting. If this setting is disabled in the server, then the client cannot enable it. But if it is enabled in the server, the client can choose to disable it.

Default SQL string length. (`default_sql_string_length`). Specifies the default width of string columns that will be created within database cache tables. String fields in database cache tables will be created with a default width of 255 if there is no upstream type information. If you have wider values than this in your data, either instantiate an upstream Type node with those values, or set this parameter to a value that is large enough to accommodate those string values.

Support SQL type logging. (`supported_sql_type_logging`). For debug purposes only; do not modify unless instructed to do so by a technical-support representative.

Enable Database UDF. (`db_udf_enabled`). If set to Y (default), causes the SQL generation option to generate user-defined function (UDF) SQL instead of pure SPSS Modeler SQL. UDF SQL usually outperforms pure SQL.

SSL

Enable SSL. (`ssl_enabled`) Enables SSL encryption for connections between SPSS Modeler and SPSS Modeler Server.

Keystore. (`ssl_keystore`) The SSL key database file to be loaded when the server starts (either a full path or a relative path to the SPSS Modeler installation directory).

Keystore stash file. (`ssl_keystore_stash_file`) The name of the key database password stash file to be loaded when the server starts up (either a full path or a relative path to the SPSS Modeler installation directory). If you want to leave this setting blank and be prompted for the password when starting the SPSS Modeler Server, see the following instructions:

- On Windows:
 1. Make sure the `ssl_keystore_stash_file` setting in `options.cfg` does not have a value.
 2. Restart the SPSS Modeler Server. You will be prompted for a password. Enter the correct password, click **OK**, and the server will start.
- On Linux/UNIX:
 1. Make sure the `ssl_keystore_stash_file` setting in `options.cfg` does not have a value.
 2. Locate the following line in the `modelersrv.sh` file:

```
if "$INSTALLEDPATH/$SCLEMDNAME" -server $ARGS; then
```
 3. Add the `-request_ssl_password` switch as follows:

```
if "$INSTALLEDPATH/$SCLEMDNAME" -request_ssl_password -server $ARGS; then
```
 4. Restart the SPSS Modeler Server. You will be prompted for a password. Enter the correct password, click **OK**, and the server will start.

Keystore label. (`ssl_keystore_label`) Label for the specified certificate.

Note: To use the Administration Console with a server setup for SSL, you must import any certificates required by SPSS Modeler Server into the Deployment Manager trust store (under `../jre/lib/security`).

Note: If you change these parameters, you need to restart SPSS Modeler Server for the change to take effect.

Coordinator of Processes configuration

Host. (`cop_host`) The hostname or IP address of the Coordinator of Processes service. The default "spsscscop" is a vanity name which administrators can choose to add as an alias for the IBM SPSS Collaboration and Deployment Services host in DNS.

Port number. (`cop_port_number`) The port number of the Coordinator of Processes service. The default, 8080, is the IBM SPSS Collaboration and Deployment Services default.

Context root. (`cop_context_root`) The URL of the Coordinator of Processes service.

Login name. (`cop_user_name`) The user name for authentication to the Coordinator of Processes service. This is an IBM SPSS Collaboration and Deployment Services login name so may include a security-provider prefix (for example: ad/jsmith).

Password. (`cop_password`) The password for authentication to the Coordinator of Processes service.

Note: If you update the *options.cfg* file manually instead of using the Modeler Administration Console, you must manually encode the `cop_password` value that you specify in the file. Plain text passwords are invalid and cause registration with the Coordinator of Processes to fail.

Follow these steps to manually encode the password:

1. Open a Command Prompt and navigate to the SPSS Modeler `./bin` directory.
2. When requested, type the user name (the `cop_user_name` you are specifying in *options.cfg*) and press Enter.
3. When requested, type the password for that user.

The encoded password is displayed between double quotes on the command line as part of the returned string. For example:

```
C:\Program Files\IBM\SPSS\Modeler\17\bin>pwutil
User name: copuser
Password: Pass1234
copuser, "0Tqb4n.ob0wrs"
```

4. Copy the encoded password, without the double quotes, and paste it between the double quotes that already exist for the `cop_password` value in the *options.cfg* file.

Enabled. (`cop_enabled`) Determines whether the server should attempt to register with the Coordinator of Processes. The default is *not* to register because the administrator should choose which services are advertised through the Coordinator of Processes.

SSL Enabled. (`cop_ssl_enabled`) Determines whether SSL is used to connect to the Coordinator or Processes server. If this option is used, you must import the SSL certificate file into the SPSS Modeler Server JRE. To do this, you must obtain the SSL certificate file and its alias name and password. Then run the following command on the SPSS Modeler Server:

```
$JAVA_HOME/bin/keytool -import -trustcacerts -alias $ALIAS_NAME -file $CERTIFICATE_FILE_PATH
-keystore $ModelerServer_Install_Path/jre/lib/security/cacerts
```

Server name. (`cop_service_name`) The name of this SPSS Modeler Server instance; the default is the host name.

Description. (`cop_service_description`) A description of this instance.

Update interval (min). (`cop_update_interval`) The number of minutes between keep-alive messages; the default is 2.

Weight. (cop_service_weight) The weight of this instance, specified as an integer between 1 and 10. A higher weight attracts more connections. The default is 1.

Service host. (cop_service_host) The fully-qualified host name of the IBM SPSS Modeler Server host. The default of the host name is derived automatically; the administrator can override the default for multi-homed hosts.

Default data path. (cop_service_default_data_path) The default data path for a Coordinator of Processes registered IBM SPSS Modeler Server installation.

Options visible in options.cfg

Most configuration options can be changed using IBM SPSS Modeler Administration Console. But there are some exceptions, such as those described in this section. The options in this section must be changed by editing the options.cfg file. See Chapter 3, "Using IBM SPSS Modeler Administration Console," on page 7 and Using the options.cfg File for more information. Note that there may be additional settings in options.cfg that are not listed here.

Note: This information only applies to a remote server (IBM SPSS Modeler Server, for example).

administrators. Specify the user names of those users to whom you want to grant administrator access. See the topic "Configuring Access with Modeler Administration Console" on page 7 for more information.

allow_config_custom_overrides. Do not modify unless instructed to do so by a technical-support representative.

fips_encryption. Enables FIPS compliant encryption. The default is N.

group_configuration. When enabled, IBM SPSS Modeler Server checks the groups.cfg file which controls who can log on to the server. See Configuring groups for details.

max_transfer_size. For internal system use only. **Do not modify.**

shell. (UNIX servers only) Overrides the default setting for the UNIX shell, for example shell, "/usr/bin/ksh". By default, IBM SPSS Modeler uses the shell defined in the user profile of the user who is connecting to IBM SPSS Modeler Server.

start_process_as_login_user. Set this to Y if you are running SPSS Modeler Server with a private password database, starting the server service from a non-root account.

use_bigint_for_count. When the number of the records to be counted is larger than a normal integer ($2^{31}-1$) can hold, set this option to Y. When this option is set to Y, and a stream is connected to DB2; SQL Server; or a Teradata, Oracle, or Netezza database, a function is used where a record count is needed (for example, the **Record_Count** field generated by the Aggregate node).

When this option is enabled, and if working with either DB2 or SQL Server, SPSS Modeler uses COUNT_BIG() for record counting. If working with Teradata, Oracle, or Netezza, SPSS Modeler will use COUNT(). For all other databases, there is no SQL pushback for the function. The difference is that when use_bigint_for_count is enabled, all record counts are saved as BIG INT (or LONG) type (a 64-bit signed integer, $2^{63}-1$ to the maximum), as compared to normal integer (a 32-bit signed integer, $2^{31}-1$ to the maximum) when the options is disabled.

`cop_ssl_enabled`. Set this option to Y if you are using SSL to connect to the Coordinator or Processes server. If this option is used, you must import the SSL certificate file into the SPSS Modeler Server JRE. To do this, you must obtain the SSL certificate file and its alias name and password. Then run the following command on the SPSS Modeler Server:

```
$JAVA_HOME/bin/keytool -import -trustcacerts -alias $ALIAS_NAME -file $CERTIFICATE_FILE_PATH  
-keystore $ModelerServer_Install_Path/jre/lib/security/cacerts
```

`cop_service_default_data_path`. You can use this option to set the default data path for a Coordinator of Processes registered IBM SPSS Modeler Server installation.

By default Analytic Server authentication using the Kerberos method is not enabled. To enable Kerberos authentication, use the three following properties:

`as_kerberos_auth_mode`. To enable Kerberos authentication, set this option to Y.

`as_kerberos_krb5_conf`. Specify the path to the Kerberos configuration file that Analytic Server should use; for example, `c:\windows\krb5.conf`.

`as_kerberos_krb5_spn`. Specify the Analytic Server Kerberos SPN; for example, `HTTP/ashost.mydomain.com@MYDOMAIN.COM`.

SPSS Modeler Server Monitoring

The monitoring pane of Modeler Administration Console shows a snapshot of all processes running on the SPSS Modeler Server computer, similar to the Windows Task Manager. To activate the monitoring pane, double-click the Monitoring node beneath the desired server in the Server Administrator pane. This populates the pane with a current snapshot of data from the server. The data refreshes at the rate shown (one minute by default). To refresh the data manually, click the **Refresh** button. To show only SPSS Modeler Server processes in this list, click the **Filter out non-SPSS Modeler processes** button.

Chapter 4. Using IBM SPSS Text Analytics Administration Console

The IBM SPSS Text Analytics Administration Console provides a user interface to monitor and configure your IBM SPSS Modeler Text Analytics Server installations. The IBM SPSS Text Analytics Administration Console can be installed only on Microsoft Windows computers; however, it can administer IBM SPSS Modeler Text Analytics Servers installed on any supported platform.

You can also use the IBM SPSS Text Analytics Administration Console to manage your IBM SPSS Modeler Text Analytics sessions as well as to manage web server connections. Specifically, if you chose to "save and reuse" the Web Feed data or the Translate node translated text, you can delete this stored session data once you no longer need it.

If you use console for IBM SPSS Modeler, the session data for IBM SPSS Modeler Text Analytics is managed in the same window.

Starting IBM SPSS Text Analytics Administration Console

After you have installed and configured IBM SPSS Text Analytics Administration Console, the Server Administrator pane on the left displays a node for each IBM SPSS Modeler Text Analytics Server that you want to administer. The right-hand pane shows the configuration options for the selected server. When you first run the application, both panes are blank.

To start IBM SPSS Text Analytics Administration Console :

From the Microsoft Windows Start menu, choose [All] Programs > IBM SPSS Modeler 17.1 IBM SPSS Collaboration and Deployment Services Deployment Manager > IBM SPSS Text Analytics Administration Console .

Server Configuration Settings

The Configuration pane shows configuration options for IBM SPSS Modeler Text Analytics Server . Use this pane to change the options as desired and then choose **File > Save** from the menus to save the changes.

Important! In order for your changes to take effect, you must restart the server web service.

Table 2. General server settings

Setting	Description
Web Service Port Number	The port number for IBM SPSS Modeler Text Analytics Server to listen on. Change if another application already uses the default. End users must know the port number in order to use IBM SPSS Modeler Text Analytics Server . After changing and saving, you must now update the server properties with this new port number as well (Right-click the server on the Server Administration tab and select Properties from the drop-down menu.) See the topic "Viewing administered server properties" on page 3 for more information.
Initial Memory Size (in MB)	The initial Java™ heap size to control the amount of memory that is allocated to JVM application.
Maximum Memory Size (in MB)	Maximum Java heap size. A value of -1 indicates no limit.

Table 3. SSL parameters

Setting	Description
Enable SSL	Enables SSL encryption for connections between IBM SPSS Modeler Text Analytics and IBM SPSS Modeler Text Analytics Server . Note: To use the Administration Console with a server setup for SSL, you must import any certificates required by SPSS Modeler Server into the Deployment Manager trust store (under ../jre/lib/security).
Private key file	Enter the name of the PKCS-12 formatted keystore to be loaded when the server starts up. Enter a filename here. Make sure the file is located in the following subdirectory of the IBM SPSS Modeler Server installation directory: <ul style="list-style-type: none"> • On Microsoft Windows: <code>\ext\bin\spss.TMWBServer\lib</code> • On UNIX: <code>/ext/bin/spss.TMWBServer/lib</code> <p>To generate this keystore, run a GSKit command with the key database filename (.kdb file, certificate label, and password) that was used to configure SSL for IBM SPSS Modeler. For example:</p> <pre>gsk8apicmd.exe -cert -export -db <keystore_filename>.kdb -pw <password> -label <certificate label> -target <keystore_filename>.p12 -target_type pkcs12 -target_pw</pre> <p>In this example, <keystore_filename>.p12 is the name of the PKCS-12 keystore to be used with IBM SPSS Modeler Text Analytics Server</p>
Private key password	Password key for the specified certificate. Enter the target password that was used in the previous command to generate PKCS-12 certificate file..

Note for UNIX platforms: The Java Cryptography Engine (JCE) shipped with some JVMs do not support all the cryptographic algorithms required by various specification used within the Identity Provider. In these cases, the BouncyCastle JCE is invoked to provide this support. To enable BouncyCastle JCE, you will need to edit the file `java.security` located in the `<modeler_server_install>/ext/bin/spss.TMWBServer/jre/lib/security` directory by adding the following line after the last `security.provider` entry: `security.provider.#=org.bouncycastle.jce.provider.BouncyCastleProvider` where # is replaced with a number one greater than the last provider in the list.

Note for Apache Axis2: Due to an update for Apache Axis2 in the product (starting from IBM SPSS Modeler 15 FP1), you must ensure that your SSL certificate has been regenerated to incorporate the update that verifies the hostname. This update requires a valid fully qualified hostname in the CN field; this is because the CN field provided in the certificate is now compared with the hostname used by the client when requesting an Axis2 service. When you have regenerated the certificate you must connect to the IBM SPSS Modeler Text Analytics Server through the Administration Console by using the fully qualified hostname otherwise the connection will fail.

Table 4. Logging parameters

Setting	Description
Logging Level	This indicates the level of logging that should be performed. Possible values are: NONE, DEBUG, INFO, WARN, ERROR, or FATAL.
Maximum Logging File Size (in KB)	This setting is the largest amount of space a log file can grow before the log file is rolled. The size is specified in kilobytes. This parameter accepts only numerical values. The default value of 0 disables log rolling.
Maximum Number of Log Files	This setting is the maximum number of log files to save before deleting the older ones. The default value of 0 means that there is no maximum number of logs.

Server Session Table

IBM SPSS Text Analytics Administration Console 's session pane shows a snapshot of all sessions running on the IBM SPSS Modeler Text Analytics Server computer.

1. To activate the session pane, double-click the Session node beneath the desired server in the Server Administrator pane. The data refreshes at the rate shown (one minute by default).
2. To refresh the data manually, click the **Refresh** button.

SessionId. This is the session's internal identifier.

Description. In the case where you have chosen to save and reuse web feeds or translation results, the label specified in the node is shown here. Otherwise a generic *Text_Mining* is shown.

Role. This column describes the role the session plays.

User Name. This is the username provided by the web server.

Temporary Directory. This is the directory path for the data generated by the session.

Timestamp. This is the date and time the session was started.

Persist. This indicates whether the session should be kept after a session has ended. When set to **false**, this indicates that the entry should be deleted when a session terminates. When you have chosen to save and reuse web feeds or translation results, **Persist** is set to **true** since you want to keep this data until you choose to delete the session directly here.

Chapter 5. Restarting Web Service

Whenever you make changes to either an IBM SPSS Modeler Server or IBM SPSS Modeler Text Analytics Server in the Administration Console, you must restart the web service.

To restart the Web Service on Microsoft Windows:

1. On the computer where you installed IBM SPSS Modeler, select **Services** from Administrative Tools on the Control Panel.
2. Locate **IBM SPSS Modeler Server** in the list and restart it.
3. Click **OK** to close the dialog box.

To restart the Web Service on UNIX:

On UNIX, you must restart the IBM SPSS Modeler Server by running the **modelersrv.sh** script in the IBM SPSS Modeler Server installation directory.

1. Change to the IBM SPSS Modeler Server installation directory. For example, at a UNIX command prompt, type:
`cd /usr/<modelersrv>`, where `modelersrv` is the IBM SPSS Modeler Server installation directory.
2. To stop the server, at the command prompt, type
`./modelersrv.sh stop`
3. To restart the server, at the command prompt, type
`./modelersrv.sh start`

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