

Installation and Configuration Instructions

SAS[®] Enterprise Miner 5.2

This document describes three installation and configuration scenarios for SAS Enterprise Miner 5.2:

Note: *If you are upgrading from SAS Enterprise Miner 5.1 to SAS Enterprise Miner 5.2, **DO NOT** follow the instructions below; please follow the instructions at <http://support.sas.com/techsup/unotes/SN/016/016082.html>.*

- Enterprise Miner Personal Workstation
- SAS Enterprise Miner Two-Tier Deployment
- SAS Enterprise Client Multi-Tier Servers

Note: *The SAS Analytics Platform Server is not supported on a Solaris for x64 machine; therefore, the standard SAS Enterprise Miner Two-Tier Deployment instructions are not appropriate. Please follow the instructions in the section entitled “SAS Enterprise Client Multi-Tier Servers.”*

Note: *During the SAS 9.1 Foundation installation you are prompted with a language selection window. Make certain you select **English with DBCS and Unicode support** if you need this functionality, such as for use with documents being passed to SAS Text Miner.*

Enterprise Miner Personal Workstation

This configuration is for installing SAS Enterprise Miner and all components on which it depends on one single computer. Uses for this configuration include demos, education, and individual modeling.

Basic requirements for the Personal Workstation Install:

Windows version: Windows XP, Windows 2000, or Windows for 64-Bit Itanium-based Systems. Windows XP Home is not sufficient.

Windows user name:

The user must be a member of the Administrators group. This user should be created before running the SAS Software Navigator.

Windows password:

You must declare a password for your user name. The password may not contain more than one \$ character.

Follow these steps to install SAS Enterprise Miner Personal Workstation:

1. Obtain the SAS Installation Data (SID) file.
2. Begin the install by inserting the **SAS Software Navigator** CD.
3. Select **Personal** as the type of deployment.
4. Specify the file location for your SID file.

5. Select **Enterprise Miner, one machine** when prompted for a plan in the **Plan Deployment** window.
6. Select **Single Account** when prompted to select one account or multiple accounts.
7. Follow the instructions in the **Install** and **Configuration** windows.

Note: *During the SAS 9.1 Foundation installation, be sure to select **English with DBCS and Unicode support** as one of your language choices on the **Language Selections** window if you need this functionality.*
8. Launch SAS Enterprise Miner as follows:

Start → Programs → SAS → Enterprise Miner 5.2 → Enterprise Miner
9. In the **Log On** window, select **Personal Workstation**, enter your user ID and password and then click **Log On**.
10. You can further customize your Enterprise Miner environment. Refer to the SAS Enterprise Miner on-line help for more information.

SAS Enterprise Miner Two-Tier Deployment

This configuration uses the sample plan, Enterprise Miner, and two machines. It is used for installing SAS Enterprise Miner and all of the components on which it depends on two computers. This configuration installs all servers on one machine and only the SAS Enterprise Miner Client on the client machines.

This installation facilitates multiple users working on projects collaboratively. Users can work in the same project, disconnect and reconnect to model training processes, and share mining results packages without experiencing resource conflicts.

Steps to Install and Configure SAS Enterprise Miner 5.2 (Two-Tier Deployment)

On the Computational Server

Installation Steps

1. Obtain the SAS Installation Data (SID) file.
2. Perform all steps in the Pre-Installation checklist.
3. Begin the installation by inserting the **SAS Software Navigator** CD.
4. Select **Advanced** as the type of deployment.
5. Specify the file location for your SID file.
6. Select **standard plan** and choose the **Enterprise Miner, two machines** sample plan when prompted to select a deployment plan.
7. Select the **ServerTier** machine when prompted to select your installation options.
8. Follow the instructions in the **Installation** and **Configuration** windows.

Note: *During the SAS 9.1 Foundation installation, be sure to select **English with DBCS and Unicode support** as one of your language choices on the **Language Selections** window if you need this functionality.*

Configuration Steps

1. Specify all the system and user identification asked for by the SAS Configuration Wizard.
2. Follow the “My Configuration” checklist generated by the SAS Configuration Wizard to initialize the repository in the SAS Management Console.
3. Use the utilities generated by the SAS Configuration Wizard to load user, access template, and server information into the repository.
4. If you are running on a Windows operating system, download the SAS Analytics Platform shortcut hot fix from the following link:
http://ftp.sas.com/techsup/download/hotfix/dmine_cl52.html.
5. Configure the SAS Analytics Platform server.

On Windows platforms you can configure the server by selecting

Start → Programs → SAS → SAS Analytics Platform → AP Server Advanced Configuration

On UNIX platforms you should run the **apserver** script as follows:

```
./apserver config
```

Refer to the *SAS Analytics Platform Administrator's Guide*

(<http://support.sas.com/documentation/onlinedoc/apcore>) for details on starting, stopping and configuring the SAS Analytics Platform.

6. Start the SAS Analytics Platform server.

On Windows platforms you can start the server by selecting

Start → Programs → SAS → SAS Analytics Platform → Start AP Server

On UNIX platforms you should start the server by running the **apserver** script in one of the following ways:

```
./apserver start
```

or

```
nohup ./apserver start > <SASAPCORE-INSTALL>/logs/ap.log 2>&1 &
```

Note: This command will start the **apserver** process as a background task so that you can exit your **xterm** session and leave the server running. It will also generate a log file instead of sending the output to `stdout`. For more information on defining the SAS Analytics Platform Server to run as a background process, please refer to SAS Note 016719 at <http://support.sas.com/techsup/unotes/SN/016/016719.html>.

7. After completing the Client installation steps which follow, you may optionally customize your SAS Workspace Server for use by Enterprise Miner. Refer to the “Customizing SAS Enterprise Miner Metadata by Using the Enterprise Miner Plug-in for SAS Management Console” section in the “Administering SAS Enterprise Miner” chapter in the *SAS 9.1.3 Intelligence Platform: Desktop Application Administration Guide* at <http://support.sas.com/documentation/configuration/bidaag.pdf> for more information. You can go directly to this information in the SAS OnlineDoc version of this document here: <http://support.sas.com/onlinedoc/913/getDoc/en/bidaag.hlp/a002760408.htm>.

On the Client

Installation Steps

1. Obtain the SAS Installation Data (SID) file.

2. Begin the install by inserting the **SAS Software Navigator** CD.
3. Select **Advanced** as the type of deployment.
4. Specify the file location for your SID file.
5. Select **standard plan** and choose the **Enterprise Miner, two machines** sample plan when prompted to select a deployment plan.
6. Select the **ClientTier** machine when prompted to select your installation options.
7. Deselect **SAS Configuration Wizard** from the **Selected Software** window.
8. Follow the instructions in the **Installation** and **Configuration** windows.

Note: *During the SAS 9.1 Foundation installation, be sure to select **English with DBCS and Unicode support** as one of your language choices on the **Language Selections** window if you need this functionality.*

9. If you are running on a Windows operating system, download the SAS Analytics Platform shortcut hot fix from the following link:
http://ftp.sas.com/techsup/download/hotfix/dmine_cl52.html
10. Launch the EM 5.2 client.

Start → Programs → SAS → Enterprise Miner 5.2 → Enterprise Miner

In the **Log On** window, de-select **Personal Workstation**; enter your user ID and password, and the host of the SAS Analytics Platform server. You can locate available SAS Analytics Platform servers by selecting the **Search for Servers** item from the drop down list provided. Click **Log On** to proceed.

Example of an Installation for SAS Enterprise Miner 5.2 Two-Tier Deployment

Computational Server	
Software Installed	Software Running
SAS Private JRE	Workspace Server
SAS Foundation	Object Spawner
SAS Management Console	Metadata Server
Foundation Services	SAS Analytics Platform Server
SAS Configuration Wizard	
EM 5.2 Client	
EM 5.2 Mid-tier components	
SAS Analytics Platform	

Client	
Software Installed	Software Running
SAS Private JRE	EM 5.2 Client
SAS Management Console	SAS Analytics Platform (client components)
Foundation Services	
EM 5.2 Client	
EM Tree Desktop Application	
SAS Configuration Wizard	
EM 5.2 Mid-tier components	
SAS Analytics Platform	

SAS Enterprise Client Multi-Tier Servers

This configuration describes Enterprise Client, Multi-Tier Servers (with optional Java Web Start Deployment and Model Viewer).

There are two optional features in SAS Enterprise Miner 5.2 that make use of a Web server.

- Java Web Start.** SAS Enterprise Miner 5.2 client files can be deployed via Java Web Start, by enabling the embedded HTTP server feature of the SAS Analytics Platform. By default this feature is enabled. Refer to the *SAS Analytics Platform Administrator's Guide* (<http://support.sas.com/documentation/onlinedoc/apcore>) for more details.

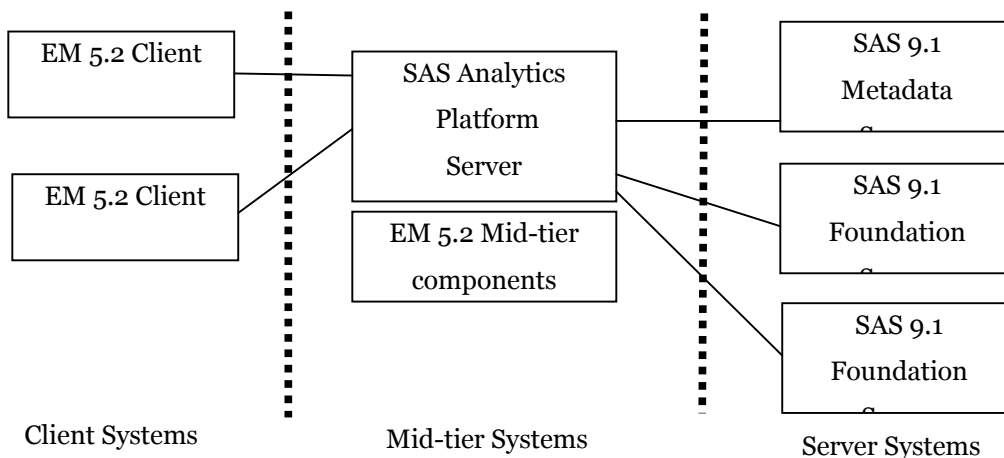
Note: *The Enterprise Miner Tree Desktop Application allows interactive training on decision trees in SAS Enterprise Miner 5.2. In order to use interactive training, the Tree Desktop Application must be installed on the client machine. This application is installed separately from the Enterprise Miner Client and is not deployed via Java Web Start.*
- Model registration and storage functions.** Models created in SAS Enterprise Miner can be published to a WebDav server where they can be shared, via the Model Viewer, independently of executing Enterprise Miner. The Model Repository Viewer is a Web application that queries and presents models that are found in the SAS Enterprise Miner model repository. This function is useful in archiving models over long periods of time and in distributing models to people who are not users of Enterprise Miner, such as business managers and database administrators. These features require:
 - That a JSP (Java Server Pages) Server be configured to deliver the content to Web users.
 - That a WebDav Server be used to persist SAS Package (SPK) files generated by SAS Enterprise Miner. SPK files augment the model repository with more complete report information.

The Model Viewer application is not integrated with the SAS Analytics Platform HTTP server, and therefore a separately running servlet engine is necessary. Refer to the “Customizing the Apache Tomcat HTTP Server” section in the “Administering SAS Enterprise Miner” chapter in the *SAS 9.1.3 Intelligence Platform: Desktop Application Administration Guide* at <http://support.sas.com/documentation/configuration/bidaag.pdf> for more information on how to configure a Tomcat server for use with the Model Viewer application. You can go directly to this

information in the SAS OnlineDoc version of this document here:
<http://support.sas.com/onlinedoc/913/getDoc/en/bidaag.hlp/a002760408.htm>.

Note: SAS Enterprise Miner 5.2 has full data mining capabilities without the use of a Web server. These options can also be added at a later time.

Diagram of a Typical Multi-Tier Installation Setup



This configuration is for installing SAS Enterprise Miner and all components on which it depends on two or more computers. The typical use for this configuration is collaborative modeling which requires heavier computational power than a desktop/laptop machine can provide, sharing models and computational resources among several users.

Using this configuration, the client can disconnect from a project and leave project flows running. While flows are running the bulk of the personal client platform is available for other work while waiting, connected to the project or not.

In a Multi-Tier Server environment, various server configurations may be used. For example, you could have a separate Metadata Server machine, several Workspace Server machines and a separate Web Server/Mid-Tier machine. The clients may be executed on satellite machines, in which case only Java has to be installed on each machine. Alternatively, clients may be launched from terminal services or X-Window sessions on the same machine as the shared platform server. In that case the only requirement for client machines is to have a compatible communication method; for example, a desktop workstation with Hummingbird Exceed X-Windows server and the client launches from a telnet session on the same server machine.

Note: If you would like to deploy over several server machines, your Account Executive will work with you to develop a deployment plan for your site. You must obtain a custom plan from your Account Executive prior to beginning this install.

Note: If you install client software locally on client machines, it is expedient to build a Software Depot.

Steps to Install and Configure SAS Enterprise Miner 5.2 (Multi-Tier Deployment)

Installation Steps

1. Obtain the SAS Installation Data (SID) file and a custom plan.
2. Perform all steps in the Pre-Installation checklist and refer to the chapter “Setting up Required Users and Groups” in the *SAS 9.1.3 Intelligence Platform: Installation Guide*, available at http://support.sas.com/documentation/onlinedoc/91pdf/sasdoc_913/intell_ig_9363.pdf.

This document is also available in SAS OnlineDoc format at

http://support.sas.com/onlinedoc/913/docMainpage.jsp?_topic=biig.hlp/a003070261.htm.

3. Begin the installation by inserting the **SAS Software Navigator** CD.
4. Select to build a Software Depot. Add each of the CDs in your distribution kit to the depot.
Repeat steps 5–10 for each machine on which you are installing (computational server machine, Metadata Server machine, Mid-Tier Server machine, and client machine).
5. Start the SAS Software Navigator from the Software Depot to install on the server machine where the Metadata Server will be located.
6. Select **Advanced** as the type of deployment.
7. Specify the file location for your SID file.
8. Select **specify a project directory that contains a custom plan** and use the **Browse** button to navigate to your custom plan.
9. Select the appropriate machine from the list, depending on which machine you are installing, when prompted to select your installation options.

Note: When installing on the Client Tier, deselect **SAS Configuration Wizard** from the **Selected Software Window**.

10. Follow the instructions in the **Installation** and **Configuration** windows.

Configuration Steps

On the Metadata & Computational Server:

1. Specify all the system and user identification asked for by the SAS Configuration Wizard.
2. Follow the “My Configuration” checklist generated by the SAS Configuration Wizard and be sure to complete all steps.
3. * Optional - To customize your SAS Workspace Server for use by Enterprise Miner, refer to the “Customizing SAS Enterprise Miner Metadata by Using the Enterprise Miner Plug-in for SAS Management Console” section in the “Administering SAS Enterprise Miner” chapter in the *SAS 9.1.3 Intelligence Platform: Desktop Application Administration Guide* at <http://support.sas.com/documentation/configuration/bidaag.pdf> for more information. You can go directly to this information in the SAS OnlineDoc version of this document here: <http://support.sas.com/onlinedoc/913/getDoc/en/bidaag.hlp/a002760408.htm>.

On the Mid-Tier Server:

1. Specify all the system and user identification asked for by the SAS Configuration Wizard.
2. Follow the “My Configuration” checklist generated by the SAS Configuration Wizard.

3. *Optional. Configure the Web server for the EM Model Viewer. Refer to the “Customizing the Apache Tomcat HTTP Server” section in the “Administering SAS Enterprise Miner” chapter in the *SAS 9.1.3 Intelligence Platform: Desktop Application Administration Guide* at <http://support.sas.com/documentation/configuration/bidaag.pdf> for more information on how to configure a Tomcat server for use with the Model Viewer application. You can go directly to this information in the SAS OnlineDoc version of this document here: <http://support.sas.com/onlinedoc/913/getDoc/en/bidaag.hlp/a002760408.htm>.
4. **Note:** *Deploying the client files via Java Web Start requires Java Web start to be installed on the client machine with Java 1.4.2 (or later). Internet Explorer users will need to install Sun's 1.4.2 JRE from the Sun Web site. The download link for Sun's archive of 1.4.2_09 is http://java.sun.com/products/archive/j2se/1.4.2_09/index.html. Select the **Download J2RE** link.*
5. If you are running on a Windows operating system, download the SAS Analytics Platform shortcut hot fix from the following link: http://ftp.sas.com/techsup/download/hotfix/dmine_cl52.html
6. Configure the SAS Analytics Platform server.

On Windows platforms you can configure the server by selecting

Start → Programs → SAS → SAS Analytics Platform → AP Server Advanced Configuration

On UNIX platforms you should run the **apserver** script as follows:

./apserver config

Refer to the *SAS Analytics Platform Administrator's Guide*

(<http://support.sas.com/documentation/onlinedoc/apcore>) for details on starting, stopping and configuring the SAS Analytics Platform.

7. Start the SAS Analytics Platform server.

On Windows Platforms you can start the server by selecting

Start → Programs → SAS → SAS Analytics Platform → Start AP Server

On UNIX platforms you should start the server by running the **apserver** script in one of the following ways:

./apserver start

or

nohup ./apserver start > <SASAPCORE-INSTALL>/logs/ap.log 2>&1 &

Note: *This command will start the **apserver** process as a background task so that you can exit your **xterm** session and leave the server running. It will also generate a log file instead of sending the output to `stdout`. For more information on defining the SAS Analytics Platform Server to run as a background process, please refer to SAS Note 016719 at <http://support.sas.com/techsup/unotes/SN/016/016719.html>.*

On the Client:

If you are deploying using Java Web Start:

Note: *Internet Explorer users will need to install Sun's 1.4.2 JRE from the Sun Web site. The download link for Sun's archive of 1.4.2_09 is http://java.sun.com/products/archive/j2se/1.4.2_09/index.html. Select the **Download J2RE** link.*

1. Launch the SAS Enterprise Miner 5.2 Java Web Start Client by pointing your Web browser to the SAS Analytics Platform server, using the port number of the embedded HTTP server. By default, this port is 6098. Therefore, if your SAS Analytics Platform Server is running on a

machine called **my.apserver** then you would enter the URL
`http://my.apserver:6098.`

You should then see the SAS Analytics Platform status page. Click the **Configuration** tab and then select the **Launch** link provided for Enterprise Miner.

2. Enter the appropriate user ID/password when prompted.

If you are **NOT** deploying using Java Web Start:

1. If you are running on a Windows operating system, download the SAS Analytics Platform shortcut hot fix from the following link:

http://ftp.sas.com/techsup/download/hotfix/dmine_cl52.html

2. Launch the SAS Enterprise Miner 5.2 client.

Start → Programs → SAS → Enterprise Miner 5.2 → Enterprise Miner

3. In the **Log On** window, de-select **Personal Workstation**, enter your user ID and password, and the host of the SAS Analytics Platform server. You can locate available SAS Analytics Platform servers by selecting the **Search for Servers** item from the drop down list provided.
4. Click **Log On** to proceed.

An example of an installation scenario with two server machines follows on the next page.

Example of an Installation Scenario with Two Server Machines

Mid-Tier Server	
Software Installed	Software Running
SAS Private JRE	EM 5.2 Mid-tier Components
SAS Management Console	WebDav Server
Foundation Services	EM JWS Client Deploy App
EM 5.2 Client	EM Model Viewer App
SAS Analytics Platform	SAS Analytics Platform Server
SAS Configuration Wizard	
Web Server	

Computational Server	
Software Installed	Software Running
SAS Private JRE	Metadata Server
SAS Foundation	Object Spawner
SAS Management Console	Workspace Server
Foundation Services	
SAS Configuration Wizard	

Client	
Software Installed	Software Running
Java 1.4.2 or later as public	EM 5.2 JWS Client
(Java Web Start is included)	SAS Analytics Platform client components
EM Tree Desktop Application	

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