

Deployment Guide

SAS/IML[®] Studio 14.1

Overview of SAS/IML Studio Installation

SAS/IML Studio is a Microsoft Windows client application that connects to SAS Workspace Servers. SAS/IML Studio must be installed on a computer that runs one of the following Microsoft Windows versions:

Table 1: Microsoft Windows Versions Supported by SAS/IML Studio 14.1

Operating System	32/64-bit	Editions	Service Pack
Windows 8.1	32- or 64-bit (x64)	all except Windows RT	
Windows 8	32- or 64-bit (x64)	all except Windows RT	
Windows 7	32- or 64-bit (x64)	Enterprise, Professional, Ultimate	
Windows Server 2012	64-bit (x64)		
Windows Server 2008 R2	64-bit (x64)		SP1

The SAS Workspace Servers can run on any platform that is supported by SAS 9.4 (TS1M3).

There are two basic deployment scenarios for SAS/IML Studio:

- Install SAS/IML Studio and SAS Foundation on the same Windows computer.
- Install SAS/IML Studio on a Windows computer and install SAS Foundation on a different computer.

Installing SAS/IML Studio and SAS Foundation on the Same Computer

If SAS/IML Studio and SAS Foundation are installed on the same Windows computer, SAS/IML Studio connects automatically to the local installation of SAS Foundation by using the Microsoft Component Object Model (COM). No configuration steps are required. Within SAS/IML Studio, the local installation of SAS is referred to as My SAS Server.

As you step through the prompts that are displayed by the SAS Deployment Wizard, make the following choices:

1. On the **Select Deployment Type** page, select **Install SAS Foundation and Related Software**.
2. On the **Select Products to Install** page, ensure that SAS/IML Studio is selected.

Installing SAS/IML Studio and SAS Foundation on Different Computers

Overview

If SAS/IML Studio and SAS Foundation are to be installed on different computers, you must perform a planned deployment of your SAS software. A planned deployment enables you to install and configure all the pieces of the SAS Intelligence Platform that are necessary for SAS/IML Studio to access a SAS Workspace Server.

Continue following these SAS/IML Studio guidelines if SAS/IML Studio is the only product in your SAS software order that requires the installation and configuration of the SAS Intelligence Platform. If your SAS software order contains other SAS products that also require a planned deployment, you should follow the deployment instructions for those other products in preference to this SAS/IML Studio deployment guide. The reason for this advice is that SAS/IML Studio has very basic requirements that will be met by the installation of any other software that requires an installation of the SAS Intelligence Platform.

Before proceeding with a planned deployment, you should familiarize yourself with the *SAS 9.4 Intelligence Platform: Installation and Configuration Guide*, located at <http://support.sas.com/documentation/cdl/en/biig/63852/PDF/default/biig.pdf>.

The remainder of this section describes the four tasks you must perform to install and configure your SAS software:

1. Install and configure SAS software on the server computer.
2. Add user identities to the SAS Metadata Server.
3. Install SAS/IML Studio on the client computer.
4. Connect SAS/IML Studio to the SAS Metadata Server.

Install and Configure SAS Software on the Server Computer

Use the SAS Deployment Wizard to install and configure your SAS software on the server computer. As you step through the prompts that are displayed by the wizard, make the following choices:

1. On the wizard page titled **Select Deployment Type**, select **Perform a Planned Deployment**.
2. On the wizard page titled **Specify Deployment Plan**, select **Select a standard deployment plan**; then select **IML Studio, two machines** from the list.
3. On the wizard page titled **Select Deployment Step and Products to Install**, select **Step 1: Server and Middle Tier**.
4. On the wizard page titled **Select Configuration Prompting Level**, it is recommended that you select **Express**. The Express path through the remaining wizard prompts is faster and simpler. However, you might want to select the **Typical** path if either of the following conditions apply:
 - Your server computer is running Microsoft Windows and you would like to enable Integrated Windows authentication.
 - You want to customize settings such as server names or port numbers.

For information about Integrated Windows authentication and security issues, see the *SAS 9.4 Intelligence Platform: Security Administration Guide*, located at <http://support.sas.com/documentation/cdl/en/bisecag/65011/PDF/default/bisecag.pdf>.

Add User Identities to the SAS Metadata Server

You need to add user identities to the SAS Metadata Server unless both the client computer and the server computer are running Microsoft Windows and you enable Integrated Windows authentication. For information about user accounts, user groups, and security issues, see the *SAS 9.4 Intelligence Platform: Security Administration Guide*. Use the SAS Management Console to add user identities to the SAS Metadata Server. It is recommended that you create a separate user identity in the SAS Metadata Server for each user of SAS/IML Studio. For further information, see the *SAS 9.4 Management Console: Guide to Users and Permissions*, located at <http://support.sas.com/documentation/cdl/en/mcsecug/64770/PDF/default/mcsecug.pdf>.

Consider using SAS Management Console to create a private data library for each user of SAS/IML Studio. SAS/IML Studio users often want a library in which they can store data that can be accessed by the SAS Workspace Server and that persists from one session to the next. By default, SAS Workspace Servers are configured so that the SASUSER library is read-only, which means that users cannot store their data in this traditional location.

Important: Starting with SAS/IML Studio 3.4, SAS/IML Studio supports all SAS libraries that are defined in metadata even if they are not marked pre-assigned.

For information about data management, see the *SAS 9.4 Intelligence Platform: Data Administration Guide*, located at <http://support.sas.com/documentation/cdl/en/bidsag/65041/PDF/default/bidsag.pdf>.

Install SAS/IML Studio on the Client Computer

Use the SAS Deployment Wizard to install SAS/IML Studio on the client computer. As you step through the prompts that are displayed by the wizard, make the following choices:

1. On the wizard page titled **Select Deployment Type**, select **Perform a Planned Deployment**.
2. On the wizard page titled **Specify Deployment Plan**, select **Select a standard deployment plan**; then select **IML Studio, two machines** from the list.
3. On the wizard page titled **Select Deployment Step and Products to Install**, select **Step 3: Clients**. Ensure that SAS/IML Studio is selected.

Connect SAS/IML Studio to the SAS Metadata Server

Start SAS/IML Studio. When SAS/IML Studio starts for the first time, it detects that SAS Foundation is not installed on the same computer and that SAS/IML Studio is not configured to connect to a SAS Metadata Server. SAS/IML Studio therefore prompts you to begin the SAS Metadata Server Connection Wizard. Follow the prompts to complete the wizard. When the wizard prompts you for credentials, enter the credentials you want this particular user to use when connecting to the SAS Metadata Server.

SAS/IML Studio stores the SAS Metadata Server connection information in two files:

```
oms_serverinfo2.xml
oms_userinfo2.xml
```

SAS/IML Studio creates the file `oms_userinfo2.xml` only if you check the box titled **Remember password** when you complete the SAS Metadata Server Connection Wizard.

These files are located in the user's profile, as shown in Table 2.

Table 2: Location of Per-User Metadata Server Connection Files

Windows 8.1	C:\Users\userid\AppData\Roaming\SAS\MetadataServer
Windows 8	C:\Users\userid\AppData\Roaming\SAS\MetadataServer
Windows 7	C:\Users\userid\AppData\Roaming\SAS\MetadataServer
Windows Server 2012	C:\Users\userid\AppData\Roaming\SAS\MetadataServer
Windows Server 2008 R2	C:\Users\userid\AppData\Roaming\SAS\MetadataServer

These connection files are the same files that are used by the SAS Integration Technologies Client for Windows. If you delete these two .xml files, SAS/IML Studio no longer knows how to connect to the SAS Metadata Server.

Sharing the Metadata Server Connection File for All Users of a Computer

By default, SAS/IML Studio creates the file `oms_serverinfo2.xml` in the user's profile. This means that each user must complete the SAS Metadata Server Connection Wizard and that each user has a private version of the file `oms_serverinfo2.xml`.

An alternative configuration is to move the file `oms_serverinfo2.xml` from the user's profile to a common location so that SAS/IML Studio uses one connection file for all users. If you want to use this alternative configuration, perform the following steps:

1. Start SAS/IML Studio.
2. From the **Tools** menu, select **SAS Metadata Server Connection Wizard**.
3. Complete the wizard.
4. The wizard creates the file `oms_serverinfo2.xml` in the directory specified in Table 2.
5. Exit SAS/IML Studio.
6. Move (not copy) the file `oms_serverinfo2.xml` to the directory shown in Table 3.

Table 3: Location of Shared Metadata Server Connection File

Windows 8.1	C:\ProgramData\SAS\MetadataServer
Windows 8	C:\ProgramData\SAS\MetadataServer
Windows 7	C:\ProgramData\SAS\MetadataServer
Windows Server 2012	C:\ProgramData\SAS\MetadataServer
Windows Server 2008 R2	C:\ProgramData\SAS\MetadataServer

Sharing the Metadata Server Connection File for All Users of Multiple Computers

Another alternative configuration is to store the SAS Metadata Server connection information in a centralized network location rather than on the individual computers on which SAS/IML Studio is installed. To use this configuration, perform the following steps:

1. Start SAS/IML Studio.
2. From the **Tools** menu, select **SAS Metadata Server Connection Wizard**.
3. Complete the wizard. The wizard creates the file `oms_serverinfo2.xml` in the directory specified in Table 2.
4. Exit SAS/IML Studio.
5. Move (not copy) the file `oms_serverinfo2.xml` to the appropriate network directory.
6. Use your favorite text editor to create a plain text file named `oms_serverinfo2.xml` in the directory specified in Table 3. The file should contain the following text:

```
<?xml version="1.0" standalone="no"?>
<!DOCTYPE omsconfig [<!ENTITY config SYSTEM
"NETWORK_PATH\oms_serverinfo2.xml">]>
<Redirect>
&config;
</Redirect>
```

where **NETWORK_PATH** is the path to the network directory (for example: `\\server\directory`).

You need to perform Step 6 on each computer on which SAS/IML Studio is installed. Of course, you can simply copy the file `oms_serverinfo2.xml` from one computer to the next.

Redirecting the Personal Files Directory

SAS/IML Studio provides each user with a private directory in which they can store the files they create using SAS/IML Studio. This per-user directory is called the *Personal Files Directory*. The default name of the Personal Files Directory is "My IML Studio Files," and the default location is the user's existing "My Documents" folder. SAS/IML Studio creates a user's Personal Files Directory the first time that user starts SAS/IML Studio. Once a user has started SAS/IML Studio, they can change the name and location of their Personal Files Directory by using the **Directories** tab of the Options dialog box, which is accessible from the **Tools** menu.

SAS/IML Studio also enables you to redirect the Personal Files Directory for all users of a particular computer. To do this, use your favorite text editor to create a plain text file named `Settings.ini` in the directory shown in Table 4.

Table 4: Location of Settings.ini File

Windows 8.1	C:\ProgramData\SAS\IML Studio
Windows 8	C:\ProgramData\SAS\IML Studio
Windows 7	C:\ProgramData\SAS\IML Studio
Windows Server 2012	C:\ProgramData\SAS\IML Studio
Windows Server 2008 R2	C:\ProgramData\SAS\IML Studio

The file should contain the following text:

```
[Personal Files Directory]
Path=DIRECTORY_PATH
```

where **DIRECTORY_PATH** is the path to the user's Personal Files Directory. Each user should have a private directory, so you should include a reference to the environment variable USERNAME in the **DIRECTORY_PATH** string. For example:

```
Path=\\server\userdata\%USERNAME%\My IML Studio Files
```

There is no requirement that the final directory in the path be named "My IML Studio Files." Also, you do not need to create the directories in the path for each user because SAS/IML Studio creates the directories automatically if they do not exist.

Be aware that after a particular user has started SAS/IML Studio at least once, that user's Personal Files Directory is set and it can be changed only by using the **Directories** tab of the Options dialog box. If you change the **DIRECTORY_PATH** string in the file `Settings.ini` after some users have used SAS/IML Studio, you can reset those users' directory settings and force the file `Settings.ini` to be reread by using the SAS/IML Administration Utility.

Using the SAS/IML Studio Administration Utility

The SAS/IML Studio Administration Utility (`AdminUtil.exe`) is a small auxiliary program that assists an administrator in performing certain actions for SAS/IML Studio that cannot be accomplished using the main SAS/IML Studio program itself. The program `AdminUtil.exe` is stored in the following directory:

```
<SASHOME>\SASIMLStudio\14.1\System
```

To start `AdminUtil`, you must use Windows to navigate to this directory and then run the program file `AdminUtil.exe`. The `AdminUtil` program is not added to the Windows Start menu.

You can perform the following actions with `AdminUtil`:

- **Reset All Options**

This action resets all the SAS/IML Studio options to their factory default settings.

- **Reset Directory Options**

This action resets only the SAS/IML Studio options in the Directories category to their factory default settings.

- **Disconnect From SAS Metadata Server**

This action disconnects SAS/IML Studio from the SAS Metadata Server. This action is accomplished by deleting the files `oms_serverinfo2.xml` and `oms_userinfo2.xml` from the directory specified in Table 2. This action does not delete or modify any files in the directory specified in Table 3.

Using the Option “Apply to all user profiles”

AdminUtil enables you to perform an action for each user who has ever started SAS/IML Studio on the computer. When you instruct AdminUtil to perform an action, it examines the check box “Apply to all user profiles.” If this check box is selected, AdminUtil performs the requested action for each user who has ever logged onto the system and started SAS/IML Studio.

Using this option is restricted as follows: If you run AdminUtil on Windows 7, Windows Server 2008 R2, or a later version of Windows, the check box “Apply to all user profiles” is unavailable unless you start AdminUtil using the command “Run as administrator.” Microsoft refers to this execution mode as running with *elevated privileges*.

- AdminUtil can perform the action “Disconnect From SAS Metadata Server” only for the current user.
- To modify the SAS/IML Studio options for a user other than the current user, AdminUtil must be able to access the user’s profile. Under normal circumstances, Windows maintains a user logon history, and those users’ profiles are accessible to AdminUtil. However, depending on how user profiles are managed, it is possible that AdminUtil cannot access the profiles of some users. In this case, AdminUtil processes only the user profiles it can access.

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