SAS Hot Fix Analysis, Download and Deployment (SASHFADD) Tool Usage Guide Version 2.2.2/2.2.3

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What's New in SASHFADD 2.2.2/2.2.3

Note: SASHFADD 2.2.2 is for UNIX systems, and SASHFADD 2.2.3 is for Windows systems.

Support for a secure hot-fix download site:
`tshf.sas.com/techsup/download/hotfix/hotfix.html`
- You can download hot fixes and hot-fix data files from the hot-fix HTTPS site using:
  - o   PowerShell on Windows (requires PowerShell 5.1 or later)
  - o   cURL on UNIX
- You can activate HTTP, which was the default download protocol prior to SASHFADD 2.2.2, and Secure SFTP within the SASHFADD.cfg file.

Hot fixes that address security issues are now identified by an S **in the Hot Fix Analysis Report.**

SASHFADD 2.2.3 for Windows:
- SASHFADD 2.2.2 was updated to improve download performance for Windows systems and repackaged as SASHFADD 2.2.3. UNIX systems are not experiencing any issues with downloads.

Discontinued support for SAS® 9.2 in SASHFADD 2.2.2:
- SASHFADD 2.2.1 continues to support SAS 9.2.

Miscellaneous Enhancements:
- The default timestamp that is appended to SASHFADD output files and directories is changed to the YYYY_MM_DD format for easier viewing.
- The SASHFADD Analysis Report is more prominently located.

SASHFADD Quick Start Guide for Windows

Complete these steps to use SASHFADD in Windows environments:

1. Download the SASHFADDwn.exe file.
2. Launch the SASHFADDwn.exe installer, which installs SASHFADD in the `C:\Program Files\SAS\SASHFADD` directory.
3. Generate a DeploymentRegistry.txt file for your SAS deployment as described in SAS Note 35968.
4. Copy the generated DeploymentRegistry.txt to the same directory as the SASHFADD.exe file.
5. Double-click the SASHFADD.exe file and follow the on-screen instructions.
6. After SASHFADD finishes running, review the generated SAS_Hot_Fix_Analysis_Report_.
   - Take note of any hot fixes in the SAS_Hot_Fix_Analysis_Report_ indicated by [D] because these fixes require additional pre- or post-installation steps that must be completed during step 8.
7. Double-click the powershell_script.bat file in the DOWNLOAD_ folder, which downloads all eligible hot fixes to the DEPLOY_ folder.
8. Launch the SAS® Deployment Manager, remembering any specific pre- or post-installation

steps indicated by [D] in the SAS_Hot_Fix_Analysis_Report_ (step 6).
   a. Click **Apply Hot Fixes**.
   b. When prompted, point the SAS® Deployment Manager to the DEPLOY_ folder containing the hot fixes that you downloaded in step 7.

SASHFADD Quick Start Guide for UNIX

Complete these steps to use SASHFADD in UNIX environments:

1. Create a directory on your UNIX system where SASHFADD will reside.
2. Download the SASHFADDux.tar file to that directory.
3. Untar the SASHFADDux.tar file using the following command:
   `tar -xvf SASHFADDux.tar`
4. Generate a DeploymentRegistry.txt file for your SAS deployment as described in SAS Note 35968.
5. Copy the generated DeploymentRegistry.txt file to the same directory as the SASHFADD.pl file.
6. Run the `perl SASHFADD.pl` command.
7. After SASHFADD finishes running, review the generated SAS_Hot_Fix_Analysis_Report_.
   - Take note of any hot fixes in the SAS_Hot_Fix_Analysis_Report_ indicated by [D] because these fixes require additional pre- or post-installation steps that must be completed during step 9.
8. Run the ./curl_script.sh script in the DOWNLOAD_ folder, which downloads all eligible hot fixes to the DEPLOY_ folder.
9. Launch the SAS Deployment Manager, remembering any specific pre- or post-installation steps indicated by [D] in the SAS_Hot_Fix_Analysis_Report_ (step 7).
   a. Click **Apply Hot Fixes**.
   b. When prompted, point the SAS Deployment Manager to the DEPLOY_ folder containing the hot fixes that you downloaded in step 8.

Note: If you are unable to successfully run SASHFADD using the Quick Start instructions, follow the detailed instructions for Windows and UNIX shown below.

Introduction

The SAS Hot Fix Analysis, Download and Deployment (SASHFADD) Tool:
- Analyzes a SAS Deployment Registry (DeploymentRegistry.txt file)
- Creates a Hot Fix Report with information and links to hot fixes that are eligible to be installed in the SAS deployment
- Generates scripts that automates the download of the eligible hot fixes

Note: Hot fixes are installed with the SAS Deployment Manager. See the Run the SAS Deployment Manager section for information about using the SAS Deployment Manager to deploy hot fixes.

Windows and UNIX versions of SASHFADD are available. SASHFADD installed on a Windows or

UNIX machine can be used to analyze SAS deployments for Windows, UNIX, and z/OS.

There are certain SAS hot fixes and patches that are not supported by SASHFADD. See SAS Note 52718 for more information.

Important Information About File Transfers

SASHFADD generates scripts that download data files and hot fixes from SAS.

New in SASHFADD 2.2.2/2.2.3: The download scripts run PowerShell commands on Windows (requires PowerShell 5.1 or later) and cURL commands on UNIX to download files from the secure SAS hot-fix server: **https://tshf.sas.com/techsup/download/hotfix/hotfix.html**

If you do not want to use PowerShell or cURL for these file transfers, you have the following options:

- Secure FTP using SFTP on UNIX and PuTTY on Windows. See SAS Note 47785 for more information. You can activate secure FTP script generation in SASHFADD by uncommenting `–GENERATE_SECURE_FTP_SCRIPTING` in the SASHFADD.cfg file.

- Basic FTP commands, which was the default in SASHFADD 2.2.1. You can activate basic FTP commands in SASHFADD by uncommenting `–GENERATE_HOT_FIX_DOWNLOAD_SCRIPTS_USING_BASIC_FTP` in the SASHFADD.cfg file.

- Manual download of the hot-fix data file required by SASHFADD and then individually click the download links for hot fixes in the SASHFADD Hot Fix Analysis Report. See the Troubleshooting section for more information.

System Requirements

Windows	UNIX
PowerShell 5.1 or later is required to establish an HTTPS connection to the secure SAS hot-fix download site. See Appendix 1 if you do not want to use PowerShell for downloading hot fixes.	SASHFADD requires Perl 5 on UNIX platforms. cURL is also required to establish an HTTPS connection to the secure SAS hot-fix download site. See Appendix 1 if you do not want to use cURL for downloading hot fixes. SASHFADD is not compatible with Perl for z/OS (OS390) on UNIX System Services (USS). SAS Technical Support recommends that z/OS users run the Windows version of SASHFADD.

Important Information Regarding Tool Usage

You must review the Hot Fix Report generated by SASHFADD prior to deploying hot fixes. The Hot Fix Report contains critical information, including identification of hot fixes that have special pre-installation or post-installation instructions.

Important note concerning ALERT issues: SASHFADD provides reporting of, and separate script generation for, hot fixes that address ALERT issues. This feature is provided to support customers who want to apply hot fixes only for critical issues as determined by SAS Technical Support.

Hot fixes that address ALERT issues are identified in the Hot Fix Report with an [**A**]. Scripts designated ALERT_ONLY contain hot fixes for ALERT issues but might also contain some non-ALERT hot fixes that are needed to satisfy ALERT hot-fix dependency requirements.

Scripts NOT specifically designated as ALERT_ONLY contain ALL hot fixes that are eligible for download and installation via scripting, **including hot fixes for ALERT issues**.

Prepare to Run SASHFADD

Run the ViewRegistry tool (see SAS Note 35968) to create a DeploymentRegistry.txt file containing the latest information about your SAS installation. **Note:** Do **NOT** use the -hotfix option when running the ViewRegistry tool (sas.tools.viewregistry.jar file). A DeploymentRegistry.txt file generated with the -hotfix option might not contain all the product information necessary for SASHFADD to perform an accurate analysis of your SAS deployment.

When you run SASHFADD on Windows or UNIX, it can analyze the DeploymentRegistry.txt file generated from a SAS installation on a different host operating system. For example, you can generate a DeploymentRegistry.txt file for your SAS installation on z/OS, and then copy the DeploymentRegistry.txt file into the directory on the Windows or UNIX machine where SASHFADD is installed.

Download SASHFADD

Important: If you are updating to a new release of SASHFADD and using the same install location as the previous release, it is recommended that you remove ALL content that was generated by the previous release from the directory before installing and running the new SASHFADD.

For Windows users, the default install location is in the `C:\Program Files\SAS\SASHFADD` directory.

Windows	UNIX
a. Download the SASHFADDwn.exe file. b. Select **Run**, which launches the WinZip Self-Extractor to unzip the download. c. Click **Unzip** to extract the contents. The following sections assume that you extracted the files to the default `C:\Program Files\SAS\SASHFADD` directory. d. **Copy the DeploymentRegistry.txt file** created in the previous section to the `C:\Program Files\SAS\SASHFADD` directory. The `C:\Program Files\SAS\SASHFADD` directory should now contain the following files: • DeploymentRegistry.txt • SASHFADD.cfg • SASHFADD.exe	a. Create a directory on your UNIX system where SASHFADD will reside. b. Download the SASHFADDux.tar file to the directory that you created and `cd` to that directory. c. Untar the SASHFADDux.tar file using the following command: `tar -xvf SASHFADDux.tar` d. Copy the DeploymentRegistry.txt file created in the previous section to your current directory. Your current directory should now contain the following files: • DeploymentRegistry.txt • SASHFADD.cfg • SASHFADD.pl • SASHFADDux.tar * * You can delete the SASHFADDux.tar file after installation is complete.

Configure SASHFADD (SASHFADD.cfg file)

The SASHFADD.cfg file can be used to do the following:

- Run SASHFADD "silently."
- Highlight the most recently released hot fixes in the Analysis Report.
- Specify whether SASHFADD should generate scripts solely for ALERT hot fixes or for all eligible hot fixes.
- Specify whether SASHFADD should generate scripts for secure FTP.
- Specify whether SASHFADD should generate scripts for basic FTP.
- Suppress the inclusion of non-English hot fixes in the Hot Fix Report.
- Force SASHFADD to interpret a DeploymentRegistry.txt file as originating from a specific release of SAS. (This option is not commonly used.)
- Specify whether the SAS hot-fix data file needs to be downloaded manually. (This option is not commonly used.)
- Change the format of the date/time stamp that is applied to directories and files.
  - You can select the optional format DDMMMYYYY_Time, which was the default format prior to SASHFADD 2.2.2.
- Append arguments to PowerShell and cURL download commands (see below) ← **New in SASHFADD 2.2.2/2.2.3**
  - See the Append Arguments to PowerShell and cURL Commands section for more information.

- Modify the FTP script headers that are generated by SASHFADD.
  - o   See the [Modify FTP Script Headers](#) section for more information.

Append Arguments to PowerShell and cURL Commands

You can append additional arguments to the download commands generated by SASHFADD for PowerShell and cURL, which might be useful for proxy server support.

1. Create a file in the SASHFADD home directory called **additional_command_line_options.txt**.
   Note: The file name is case sensitive! Also, you must use the exact file name mentioned above.

2. In the additional_command_line_options.txt file, enter the arguments that you want appended to each command.

   - For example, with PowerShell, you could include the following:

     ```
     -Proxy <Uri> -ProxyCredential <PSCredential>
     ```

3. In the SASHFADD.cfg file, uncomment the line:
   ```
   -APPLY_ADDITIONAL_DOWNLOAD_COMMAND_OPTIONS.
   ```
   Then, save the SASHFADD.cfg file.

4. Run SASHFADD. All PowerShell or cURL scripts generated by SASHFADD apply the additional arguments to each download command.

Note: If you activate `-APPLY_ADDITIONAL_DOWNLOAD_COMMAND_OPTIONS` in the SASHFADD.cfg file and then later choose to de-activate this feature, you must also delete the following files from your SASHFADD home directory to restore generation of the default commands:

- Windows: Delete the SAS9[3-4]_HFADD_data_ftp_download_script.txt file
- UNIX: Delete the SAS9[3-4]_HFADD_data_ftp_download.sh file

Modify FTP Script Headers

If you activate the option `-GENERATE_HOT_FIX_DOWNLOAD_SCRIPTS_USING_BASIC_FTP` in the SASHFADD.cfg file, you generate download scripts that use basic FTP, which was the default format prior to SASHFADD 2.2.2. If these basic connection commands are not compatible with your proxy server, you can overwrite the default commands by following these steps:

1. Create a file in the SASHFADD home directory called **modified_script_header.txt**.
   Note: The file name is case sensitive! Also, you must use the exact file name mentioned above.

2. In the modified_script_header.txt file, enter the FTP connection commands that are compatible with your proxy server.

   a. In the default scripts generated by SASHFADD, all commands **before** the **binary** command are considered part of the header and will be overwritten by the commands that you save in the modified_script_header.txt file.

      Here is the default Windows header that will be overwritten:
      ```
      open ftp.sas.com
      anonymous          ← FTP User
      SASHFADD           ← FTP Password
      ```

Here is the default UNIX header that will be overwritten:

```
#!/bin/sh
FTPHOST=ftp.sas.com
FTPUSER=anonymous
FTPPW=SASHFADD
ftp -n $FTPHOST <<-EOF
user $FTPUSER $FTPPW
```

    b.   It is recommended that you generate default SASHFADD scripts and review the header before attempting to write a modified header.

        i.   Windows users can view the SAS9[3-4]_HFADD_data_ftp_download_script.txt file that is generated

        ii.   UNIX users can view the SAS9[3-4]_HFADD_data_ftp_download.sh file that is generated

    c.   You might need to work with a system administrator at your site to determine the syntax for the header.

3.   After you enter the commands, save the modified_script_header.txt file.

4.   In the SASHFADD.cfg file, uncomment the following line: –USE_MODIFIED_SCRIPT_HEADER. Then, save the SASHFADD.cfg file.

5.   Run SASHFADD. All FTP scripts generated by SASHFADD will use your modified header.

Here are some important notes:

o   If you activate –USE_MODIFIED_SCRIPT_HEADER in the SASHFADD.cfg file and then later choose to de-activate this feature, you must also delete the following files from your SASHFADD home directory to restore generation of the default script headers:

- Windows: Delete the SAS9[3-4]_HFADD_data_ftp_download_script.txt file

- UNIX: Delete the SAS9[3-4]_HFADD_data_ftp_download.sh file

o   You can use a modified script header for PowerShell and cURL scripting.

o   You CANNOT use a modified script header with secure SFTP scripting.

General Information about the SASHFADD.cfg file:

- Unless otherwise documented in this Usage Guide, the instructions for making configuration changes are included within the installed SASHFADD.cfg file. Confirmed SASHFADD configuration settings appear at the bottom of the Hot Fix Report and in the SASHFADD Log file.

- In the SASHFADD.cfg file, you are not required to specify the release of SAS being analyzed. SASHFADD should be able to make that determination by looking for key products in the DeploymentRegistry.txt file. However, in the event of an unusual SAS deployment in which that determination cannot be made by SASHFADD, you should uncomment one of the commands (**–SAS 9.3** or **–SAS 9.4**) to specify the release of SAS. If you accidentally uncomment more than one release, SASHFADD reports a failure and does not proceed with the hot-fix analysis.

Run SASHFADD

Windows	UNIX
Double-click the SASHFADD.exe file to execute the tool.	Execute the command: **perl SASHFADD.pl** Your system settings might require you to enter a fully qualified path to the Perl 5 executable. If Perl 5 is not installed on your system, you need to either install it or use the Windows version of SASHFADD.

If you did not select the -SILENT option in the SASHFADD.cfg file, you are prompted to enter a descriptive name for the machine that contains the SAS deployment being analyzed. This name is used for the creation of the output directory containing the SASHFADD report and scripts. Only alphanumeric characters and underscores (_) are allowed in the name. (Examples: My_PC, ALECs_pc, server4321, Test_Machine_5)

During SASHFADD processing, scripts are generated and executed that download a required data file from the SAS Technical Support hot-fix site. The file is either called SAS**93**_HFADD_data.xml or SAS**94**_HFADD_data.xml, depending on the release of SAS that is being analyzed.

If you do not see any of these files in your current directory after running SASHFADD or if you are unable to download the files through a proxy server at your site, you can manually download the files. See the [Troubleshooting](#) section for more information.

SASHFADD also creates a new directory. If you entered a descriptive name when prompted by SASHFADD, here is what the new directory is called: *<name_you_entered>_<timestamp>*

If you ran SASHFADD with the -SILENT option or you did not enter a name when prompted, here is what the new directory is called: SASHFADD_*<timestamp>*

Note: Each directory name is marked with the timestamp when it was created to ensure that a unique directory name is generated each time that you run SASHFADD. The timestamp is in the Year_Month_Day_Hour.Minute.Second format. Here is an example:
MY_PC_2019_9_23_14.50.53

The directory contains the following subdirectories:

      DEPLOY_

      DOWNLOAD_

      LOG_

If you uncomment -USE_DDMMMYYYY_TIME_FORMAT_FOR_DIRECTORY_AND_FILE_NAMES in the SASHFADD.cfg file, the directory name in the above example will be **My_PC_17Feb2016_13.24.33**. This was the default format prior to SASHFADD 2.2.2

Review the Hot Fix Report

Important! Carefully review the SAS_Hot_Fix_Report documented in this section prior to downloading and deploying hot fixes! It is especially important that you carefully follow any pre-post-installation instructions in the documentation designated by a [D] in the report.

The Hot Fix Report can be found in the top-level directory generated by SASHFADD when you run the tool. The report lists the hot fixes that are available for your installed SAS products based on the DeploymentRegistry.txt file.

The Hot Fix Report might contain up to three sections:

- **Hot fixes that might be downloaded individually or by using the generated scripts**
  This section **always** appears in the Hot Fix Report and lists hot fixes that can be downloaded individually or by using the generated download scripts.

  Successful installation of these hot fixes is recorded in the Deployment Registry. If your system is up-to-date with these hot fixes, then an appropriate message appears.

- **Hot fixes that are available only by clicking the Download link and following installation instructions**
  This section **might** appear in the Hot Fix Report and lists hot fixes that must be downloaded and installed individually by closely following the instructions in the documentation.

  Successful installation of these hot fixes might be recorded in the SAS Deployment Registry depending on the unique properties of the hot fix. It is possible that you will continue to see these hot fixes in the report even if they have been successfully installed. If you have already applied these hot fixes by following the installation instructions, then you can safely ignore their reappearance in the report.

  Hot fixes that include configuration scripting appear in this section along with a link to SAS Note 57696. You must install these hot fixes separately from hot fixes that do not include configuration scripting. The hot-fix documentation contains information about the SAS Deployment Manager settings that you must use to properly complete the installation.

- **Hot fixes containing updates only to non-English software components**
  This section **might** appear in the Hot Fix Report and lists hot fixes that can be applied only to systems in which the languages listed with the hot fix are installed for the specific SAS product. **These hot fixes do not appear in the SASHFADD download scripts.** You must download them by clicking the **Download** link.

  Successful installation of these hot fixes is recorded in the SAS Deployment Registry. If you are ineligible to install these hot fixes because you have not installed the SAS product for the languages listed, then you can safely ignore the appearance of these hot fixes in the report.

If you do not wish to see these hot fixes in the report, uncomment the line –ENGLISH_ONLY in the SASHFADD.cfg file.

Each section of the report includes a list of available Hot Fix IDs and links to review Issue(s) Addressed and Documentation and to Download the hot fix.

Hot Fix ID

[C]: This designation beside a Hot Fix ID indicates that this is a "container" hot fix, which delivers updates to multiple SAS software components in one hot-fix download. You can view the documentation for the list of components that will be updated. Eligible hot fixes with this designation are automatically included in the download script. See "What is a Container Hot Fix?" in the SAS Hot Fix FAQ for more information.

[3]: This designation beside a Hot Fix ID indicates that you should contact SAS Technical Support for more information about the fix. Hot fixes with this designation are not included in the download script.

Issue(s) Addressed

Issues addressed links provide access to information about SAS Notes addressed by the hot fix.

[A]: This designation beside an Issue(s) Addressed link indicates that at least one ALERT issue is addressed in the hot fix. View the Issue(s) Addressed for more information. Eligible hot fixes with this designation are automatically included in the download and deployment scripts and are included in separate Alert_Only download and deployment scripts.

[1]: This designation beside an Issue(s) Addressed link indicates that at least one important note appears with the Issue(s) Addressed on the download site. You should review this note before proceeding with the installation of the hot fix. Hot fixes with this designation are automatically included in the download and deployment scripts.

[S]: This designation beside an Issue(s) Addressed link indicates that at least one SECURITY issue is addressed in the hot fix. View the Issue(s) Addressed for more information. **← New in SASHAFDD 2.2.2/2.2.3**

Documentation

Documentation links provide direct access to the hot-fix installation instructions.

[D]: This designation beside a Documentation link indicates that the documentation contains special pre-installation, post-installation, or other unique instructions not commonly used for hot-fix deployments. You should review the documentation before proceeding with the download and deployment of the hot fix. Hot fixes with this citation are automatically included in the download and deployment scripts. *Important note:* **Failure to follow pre- or post-installation instructions results in an incomplete hot-fix installation and might result in system instability.**

Download

Download links provide direct access to download the hot fix.

[2]: This designation beside a Download link indicates that the hot fix does not use the same installation process as other hot fixes or it might need to be installed separately from other hot fixes with special settings in the SAS Deployment Manager. Use the Documentation link to review installation instructions prior to proceeding with the hot-fix download. These hot fixes might continue to appear on the Hot Fix Report even if they have already been downloaded and deployed since their installation might not be recorded in the SAS Deployment Registry.

Review and Run a Hot-Fix Download Script Using PowerShell or cURL

Important: This section assumes that you are using the default download methods of PowerShell (Windows) or cURL (UNIX).

See [Appendix 1](#) if you have activated one of the following alternative download methods in the SASHFADD.cfg file:

```
-GENERATE_SECURE_SFTP_SCRIPTING
-GENERATE_HOT_FIX_DOWNLOAD_SCRIPTS_USING_BASIC_FTP
```

In this section, files designated _ALERT_ONLY include hot fixes that address ALERT issues as indicated by **[A]** on the Hot Fix Report. Files NOT designated _ALERT_ONLY include all hot fixes eligible for scripted download and silent installation, **including hot fixes that address ALERT issues.**

The instructions in this section assume that you have NOT selected one specific type of scripting (_ALERT_ONLY_ or _ALL_ELIGIBLE_) in the SASHFADD.cfg file.

Windows	UNIX
The **DOWNLOAD_** directory contains the following files:	The **DOWNLOAD_** directory contains the following files:
 • ALERT_README.txt * • MD5_checksums.txt • MD5_checksums_ALERT_ONLY.txt* • powershell_script.bat • powershell_script_ALERT_ONLY.bat * * Files appear only if there are hot fixes for ALERT issues.	 • ALERT_README.txt * • curl_script.sh • curl_script_ALERT_ONLY.sh * • MD5_checksums.txt • MD5_checksums_ALERT_ONLY.txt * * Files appear only if there are hot fixes for ALERT issues.
You can modify the powershell_script.bat file and the powershell_script_ALERT_ONLY.bat file to exclude hot fixes from download.	You can modify the curl_script.sh file and the curl_script_ALERT_ONLY.sh file to exclude hot fixes from download.

If you are satisfied with the list of hot fixes to be downloaded based on the Hot Fix Report:
 	
double-click the powershell_script.bat file **-or-** the powershell_script_ALERT_ONLY.bat file to begin downloading the hot fixes. A window appears that shows the progress of the downloads.
	If you are satisfied with the list of hot fixes to be downloaded based on the Hot Fix Report, then execute one of the following commands:
	
	`./curl_script.sh`
	`./curl_script_ALERT_ONLY.sh`

You MUST run these .bat files from within the **DOWNLOAD_** directory.	You MUST run these scripts from within the **DOWNLOAD_** directory.
Note: It might take several minutes to complete the download process.	**Note:** It might take several minutes to complete the download process.
Hot-fix download files are placed in the **DEPLOY_** directory.	Hot-fix download files are placed in the **DEPLOY_** directory.

Note: The MD5_checksums files contain MD5 checksum values for each hot-fix download available for your installed SAS products. This file can be useful if you want to validate the integrity of the downloaded hot-fix files. Tools used for performing MD5 validation are not available from SAS and are not supported by SAS Technical Support.

Run the SAS® Deployment Manager

The hot fixes downloaded by the download script are available in the `DEPLOY_` directory.

The SAS Deployment Manager is used to apply hot fixes. For more information about the SAS Deployment Manager for SAS® 9.3 or SAS® 9.4, see the following:

- SAS Deployment Wizard/SAS Deployment Manager 9.3: User's Guide
- SAS Deployment Wizard/SAS Deployment Manager 9.4: User's Guide

By default, the SAS Deployment Manager searches the `<SASHOME>/InstallMisc/HotFixes/New` directory for hot fixes to be applied. To complete the installation of the hot fixes, you can do *EITHER* of the following:

- Copy the downloaded hot fixes from the `DEPLOY_` directory to `<SASHOME>/InstallMisc/HotFixes/New`.
- When prompted by the SAS Deployment Manager, enter the path directly to the `DEPLOY_` directory.

Best Practice: Because the SAS Deployment Manager does NOT remove the hot-fix downloads from the `New` directory after they have been applied, a best practice is to point the SAS Deployment Manager to the `DEPLOY_` directory. If SASHFADD is not installed on the same machine as the SAS deployment, you can copy the entire `DEPLOY_` directory to the machine where SAS is installed before launching the SAS Deployment Manager.

Troubleshooting

Each execution of SASHFADD creates a SASHFADD_LOG_ file in the `LOG_` subdirectory. The log traces the execution of SASHFADD and can be used to troubleshoot any problems with report, directory, or script generation.

Common Problems and Solutions

Missing SAS9[3-4]_HFADD_data.xml File Or Messages About Failures

You might encounter a problem after running SASHFADD. In this situation, you can experience *any* of the following symptoms:

- You do not see the SAS9[3-4]_HFADD_data.xml file in the SASHFADD home directory.
- You see the following message on the command console:
  ```
  SASHFADD was unable to download or open a critical hot fix data
  file.
  ```
- You see the following messages on the command console:
  ```
  FTP> Invalid Command
  FTP> Not Connected
  ```

- You see the following message near the top of the Hot Fix Report:
  ```
  Warning: Hot Fix Data file (SAS9[3-4]_HFADD_data.xml) is not
  found or is more than 96 hours old.
  ```
- You see the following ERROR in the SASHFADD_LOG_:
  ```
  >> %%% ERROR: Unable to open SAS9[3-4]_HFADD_data.xml
  ```

These messages indicate that SASHFADD could not access the current hot-fix data. You might have encountered a problem downloading either the SAS93_HFADD_data.xml file or the SAS94_HFADD_data.xml file. Depending on the SAS release being analyzed, SASHFADD must have access to one of these files.

This problem is most likely to occur when a SASHFADD script makes a connection request that cannot be fulfilled through a proxy server.

If you are using PowerShell (Windows) or cURL (UNIX), you might be able to correct this problem by activating –APPLY_ADDITIONAL_DOWNLOAD_COMMAND_OPTIONS in the SASHFADD.cfg file and following the directions described in the [Append Arguments to PowerShell and cURL Commands](#) section.

If you are using basic FTP, you can activate the –USE_MODIFIED_SCRIPT_HEADER option in the SASHFADD.cfg file, and then follow the directions described in the [Modify FTP Script Headers](#) section.

You might need to ask your system administrator about syntax requirements for your proxy server.

If you or your system administrator are unable to correct the connect and/or proxy server issue, you can download the necessary data file manually by completing these steps:

1. Click [SAS93_HFADD_data.xml](#) if SASHFADD is analyzing a SAS 9.3 image.
   Click [SAS94_HFADD_data.xml](#) if SASHFADD is analyzing a SAS 9.4 image.

2. If you are not certain which release of SAS is being analyzed, download both files. SASHFADD uses the one it needs.

3. Select **File**, and then **Save As**.

4. Confirm that you are saving the SAS93_HFADD_data.xml file and/or the SAS94_HFADD_data.xml file. **Note:** File names are case sensitive!

5. Save the SAS93_HFADD_data.xml file and/or the SAS94_HFADD_data.xml file to the same directory as SASHFADD.

6. In the SASHFADD.cfg file, uncomment –HOT_FIX_DATA_FILE_MANUAL_DOWNLOAD and then save the updated SASHFADD.cfg file. This step prevents SASHFADD from attempting to re-download the SAS9[3-4]_HFADD_data.xml file.

7. Run SASHFADD.

Note: If you are unable to resolve the connection problem, then you most likely will NOT be able to successfully download hot fixes using the automated scripts. However, you should still be able to download the hot fixes individually by clicking the **Download** link(s) in the SAS_Hot_Fix_Report_.

"ERROR: Unable to open DeploymentRegistry.txt" Occurs

You might encounter an issue in which you see the following message in the Log/tool_log.txt file:

```
> > %%% ERROR: Unable to open DeploymentRegistry.txt
> > %%% ERROR: Deployment Registry Host () could not be identified.
```

This message indicates that the required DeploymentRegistry.txt file does not exist in the same directory as SASHFADD.

If you are unable to determine the cause of problems encountered by SASHFADD, contact SAS Technical Support.

Appendix 1: Using Basic FTP or Secure SFTP for Downloading Hot Fixes

Important Note: Use this appendix only if you have selected either of the following in the SASHFADD.cfg file:

```
-GENERATE_SECURE_SFTP_SCRIPTING
-GENERATE_HOT_FIX_DOWNLOAD_SCRIPTS_USING_BASIC_FTP
```

In the following sections, files designated _ALERT_ONLY include hot fixes that address ALERT issues as indicated by **[A]** on the Hot Fix Report. Files NOT designated _ALERT_ONLY include **all** hot fixes eligible for scripted download and silent installation, **including hot fixes that address ALERT issues.**

The instructions in this appendix assume that you have NOT selected one specific type of scripting (_ALERT_ONLY_ or _ALL_ELIGIBLE_) in the SASHFADD.cfg file.

If you specified `-GENERATE_SECURE_SFTP_SCRIPTING` in the SASHFADD.cfg file, then **s**ftp_ script and text files appear in the `DOWNLOAD_` directory.

Windows	UNIX

In the **DOWNLOAD_** directory, you find the following files:
 	
• ALERT_ONLY_README.txt *
• ftp_script.bat
• ftp_script_ALERT_ONLY.bat *
• ftp_script.txt
• ftp_script_ALERT_ONLY.txt *
• MD5_checksums.txt
• MD5_checksums_ALERT_ONLY.txt *
 	
* Files appear only if there are hot fixes for ALERT issues.
 	
You can modify the ftp_script.txt file and the ftp_script_ALERT_ONLY.txt file as needed to exclude hot fixes from download or to change the transfer protocol as required by your site.
 	
If you are satisfied with the list of hot fixes to be downloaded based on the Hot Fix Report, double-click the ftp_script.bat file **or** the ftp_script_ALERT_ONLY.bat file to begin downloading the hot fixes. A window appears that shows the progress of the downloads.
 	
You MUST run these .bat files from within the **DOWNLOAD_** directory.
 	
Note: It might take several minutes to complete the download process.
 	
Hot-fix download files are placed in the **DEPLOY_** directory.
	In the **DOWNLOAD_** directory, you find the following files:
	
	• ALERT_ONLY_README.txt *
	• ftp_script.sh
	• ftp_script_ALERT_ONLY.sh *
	• MD5_checksums.txt
	• MD5_checksums_ALERT_ONLY.txt *
	
	* Files appear only if there are hot fixes for ALERT issues.
	
	You can modify the ftp_script.sh file and the ftp_script_ALERT_ONLY.sh file as needed to exclude hot fixes from download or to change the transfer protocol as required by your site.
	
	If you are satisfied with the list of hot fixes to be downloaded based on the Hot Fix Report, then execute one of the following commands:
	
	`./curl_script.sh`
	`./curl_script_ALERT_ONLY.sh`
	
	You MUST run these scripts from within the **DOWNLOAD_** directory.
	
	Note: It might take several minutes to complete the download process.
	
	Hot-fix download files are placed in the **DEPLOY_** directory.

Note: The MD5_checksums files contain MD5 checksum values for each hot-fix download available for your installed SAS products. This file is useful if you want to validate the integrity of the downloaded hot-fix files. Tools used for performing MD5 validation are not available from SAS and are not supported by SAS Technical Support.