Instructions for SAS Private JRE Updates for SAS® 9.4M8 (TS1M8)

This document contains instructions about how to install Java 11 updates for SAS® 9.4M8 (TS1M8). If you have a different SAS release, select the appropriate documentation below:

- JRE updates for SAS® 9.4M6 (TS1M6) - SAS® 9.4M7 (TS1M7)
- JRE updates for SAS® 9.4M3 (TS1M3) - SAS® 9.4M5 (TS1M5)

Note: If you are using SAS® 9.3M2 (TS1M2) or SAS® 9.4M0 (TS1M0) – SAS® 9.4M2 (TS1M2), consider upgrading to a later release to leverage enhanced capabilities and a more robust support experience. If you are unable to upgrade at this time, contact SAS Technical Support for the Java 7 update.

To access the download file, go to the Updates for Java 11 downloads page and click the corresponding link. Then, complete these instructions, which contain the following:

- important notes that *you should review before beginning installation*, such as how to identify your version of the SAS Private Java Runtime Environment (JRE) and extra steps that you must take on AIX and HP-UX platforms
- installation instructions
- post-installation instructions

Important Notes

- You must have **SAS Private JRE release 9.49** installed on your system before applying this hot fix. Refer to SAS KB0036131 for instructions about how to determine which product releases you have installed.

- Files delivered in this hot fix are backed up during the installation process. However, it is a good general practice to back up your system before applying updates to software. The backup created by the installation process is located here:

  SASHome/SASPrivateJavaRuntimeEnvironment/9.4/installs/privatejre_host_9.*xx*_HF*hot-fix-id*/SASHome/*xx*/backup.*date-time-stamp*

  You need to access this backup location as described in the "Post-Installation Instructions" section.

- If you have a middle tier, you must complete these steps *each time* that you perform an add-on.

- *(Very Important)* To ensure that you do not cause any issues, run the SAS Private JRE update *after* completing installation and configuration of SAS.

- (This note does not apply to AIX or HP-UX platforms.) The SAS Private JRE is distributed alongside, contains, or uses certain third-party and/or open-source software. See the license and third-party files for more information about applicable third-party and open-source licenses.

Installation Instructions

1. The hot fix for SAS Private JRE release 9.49 is installed using the SAS Deployment Manager. By default, the SAS Deployment Manager searches the **SASHome/InstallMisc/HotFixes/New** directory for hot fixes to be applied, but it also prompts for a location if you have downloaded hot fixes to a different directory.

2. Ensure that the **Configure SAS hot fix** option is *not* selected in SAS Deployment Manager. If this option is automatically selected, clear the selection before proceeding with the SAS Deployment Manager wizard. Failure to clear this option could have unintended consequences when you apply the hot fix. No automatic configuration scripting is required for this hot fix.

3. Follow the instructions in the "Finding and Applying Hot Fixes" section in the SAS® Deployment Wizard and SAS® Deployment Manager 9.4: User's Guide.

Note: When you apply the hot fix to the SAS Private JRE, SAS Deployment Manager performs several steps and then prompts you to restart. Click **Yes** to allow this restart. After SAS Deployment Manager restarts, click **Next** to continue with the hot-fix installation. See SAS Note 58174 for assistance if SAS Deployment Manager does not restart.

Post-Installation Instructions

Review all the steps below to determine which are relevant to your system. Exceptions are noted in parentheses before the instruction.

1. (UNIX only) SAS 9.4 uses TrueType fonts to provide quality printing and font display across multiple platforms. When updating a SAS Private JRE, you must copy the TrueType fonts that are installed with SAS 9.4 into the new SAS Private JRE by following these instructions:
   a. Navigate to the **SASHome/SASPrivateJavaRuntimeEnvironment/9.4/installs/privatejre_host_9.xx_HFhot-fix-ID/SASHome/xx/backup.date-time-stamp/lib/fonts** directory.

   b. Copy all fonts from your backup directory to your new JRE **SASHome/SASPrivateJavaRuntimeEnvironment/9.4/jre/lib/fonts** directory, using the following commands:
   ```
   > cp -pf *.ttc
   ```

```
SASHome/SASPrivateJavaRuntimeEnvironment/9.4/jre/lib/fonts

> cp -pf *.ttf
SASHome/SASPrivateJavaRuntimeEnvironment/9.4/jre/lib/fonts
```

Warning: You must copy the fonts for all Java functionality to work properly in SAS.

2. Re-importing Certificates into the Updated SAS Private JRE

SAS uses a collection of trusted certificate authority (CA) certificates provided by Mozilla to authenticate Transport Layer Security (TLS)-certificate chains provided by servers. During the installation and configuration, the Trusted CA Bundle is automatically copied into the required JRE. When updating the SAS Private JRE, you must copy the Trusted CA Bundle into the new SAS Private JRE by following these instructions:

a. If you have site-signed or third-party signed CA TLS certificates that need to be added to or removed from the SAS Trusted CA Bundle, complete the instructions at the following link and skip step b below: Manage Certificates in the Trusted CA Bundle Using the SAS Deployment Manager.

b. If you are not using any site-signed or third-party signed CA TLS certificates, or have already added your CA certificates to the Trusted CA Bundle provided by the SAS Security Certificate Framework, execute the following command to copy the Trusted CA Bundle into the new SAS Private JRE:

UNIX:
```
> cp
SASHome/SASSecurityCertificateFramework/1.1/cacerts/trustedcerts.jks
SASHome/SASPrivateJavaRuntimeEnvironment/9.4/jre/lib/security/jssecacer
ts
```

Windows:
```
> copy
SASHome\SASSecurityCertificateFramework\1.1\cacerts\trustedcerts.jks
SASHome\SASPrivateJavaRuntimeEnvironment\9.4\jre\lib\security\jssecacer
ts
```

This completes the installation and configuration.