

Addressing the Java Deserialization Vulnerability for SAS Software

This document describes the steps you should take in order to apply SAS Security Update 2015-11 and the hot fixes associated with it. It is critical that the steps be performed in the order they appear in this document. It is also critical that you perform all of the steps the first time that you apply the update and hot fixes.

Note: After the update and the hot fixes described in this document have been applied, if you subsequently update your deployment with additional products or other hot fixes, you should repeat steps 1-3 below.

These steps may direct you to apply a hot fix you have already applied outside this process. If so, follow the instructions and re-apply the hot fix. The SAS Deployment Manager will determine if any hot fix has been previously applied and tell you what hot fixes it did apply. If it finds that a hot fix has been previously applied, you do not have to perform any of the post-installation steps for that hot fix.

Step 1 — Apply SAS Security Update 2015-11

Use the following steps to apply the security update. These instructions should be followed for every machine in your deployment, whether it is by putting the update individually on each machine or running the update from a networked location that each machine has access to.

1. Before beginning, ensure all active SAS sessions, daemons, spawners, servers, and agents are terminated. In addition, SAS strongly recommends that you back up your system before applying the hot fix.
2. Download the security update from http://ftp.sas.com/techsup/download/hotfix/HF2/Java-deserialization_update.html#update
3. Unzip `sas-security-update-2015-11.zip` into a directory of your choice. On UNIX, using `unzip` is the best option, but if you use WinZip or the `jar xvf` command, you must also use the following command in order to preserve the appropriate permissions:

```
chmod a+x install.sh
```
4. From the directory into which you've unpacked the software, go to the `sas-security-update-2015-11` directory.
5. In that directory, run the appropriate script using the same user ID that was used to install the software. The script requires one argument, the full path to the `SASHOME` where the hot fix is going to be applied.

Windows

```
install.bat "<SASHOME>"
```

Windows Example

```
install.bat "C:\Program Files\SASHome"
```

*Note: Depending on your settings, you may have to use the **Run as administrator** option.*

UNIX

```
./install.sh "<SASHOME>"
```

UNIX Example

```
./install.sh "/usr/lpp/SAS"
```

6. The tool runs and applies the hot fix to all the files in the SASHOME that need to be updated. When the tool finishes making the updates, it provides a message that says the updates are complete and then exits.

After the tool exits, the zip file should be either moved to another location or deleted because its presence will prevent successfully applying subsequent hot fixes that are stored in the same location.

Step 2 — Apply Hot Fix Y09001 - Supplemental Hot Fix for SAS Security Update 2015-11

Hot fix Y09001 is a container hot fix that contains fixes for several products. Your deployment may not contain all of the products included in this hot fix container: the tools will skip updates if they do not apply to your deployment. We have packaged these together to make the update simpler.

Ensure that all active SAS sessions, daemons, spawners, servers, and agents remain terminated. Then follow these instructions to apply hot fix Y09001.

1. Go to http://ftp.sas.com/techsup/download/hotfix/HF2/Java-deserialization_update.html#Y09001
2. Use the Y09001pt.pdf file at that location to apply hot fix Y09001 and perform any post-installation tasks that are required. Hot fix Y09001 should be applied to every machine in your deployment, per the instructions.

Note that the post-installation tasks for the hot fix may be substantial, depending on the number of products you have deployed that require the hot fix. They might take longer than the description of them above would indicate.

Step 3 — Rebuild and Redeploy Web Applications

After the update and hot fixes have been applied, you must rebuild and redeploy every web application in order that the hot fixes can take effect. The instructions for rebuilding and redeploying can be found in the following locations:

Rebuilding - refer to the "Rebuilding the SAS Web Applications" topic in the "Administering SAS Web Applications" section of the "Middle-Tier Applications" chapter of the *SAS 9.4 Intelligence Platform: Middle-Tier Administration Guide* located at <http://support.sas.com/documentation/onlinedoc/intellplatform/tabs/admin94.html>

Redeploying - refer to the “Redeploying the SAS Web Applications” topic in the “Administering SAS Web Applications” section of the “Middle-Tier Applications” chapter of the *SAS 9.4 Intelligence Platform: Middle-Tier Administration Guide* located at <http://support.sas.com/documentation/onlinedoc/intellplatform/tabs/admin94.html>

Step 4 — Apply Hot Fix V77004

Hot fix V770004 is a container hot fix that applies updates to the SAS Web Server and to the SAS Environment Manager. Even if you have previously applied V77003, you need to apply V77004.

Ensure that all active SAS sessions, daemons, spawners, servers, and agents remain terminated. Then follow these instructions to apply hot fix V77004.

1. Go to http://ftp.sas.com/techsup/download/hotfix/HF2/Java-deserialization_update.html#V77004
2. Use the V77004xx.html file that is appropriate for your operating system at that location in order to apply hot fix V77004 and perform any post-installation tasks that are required. Hot fix V77004 should be applied to every machine in your deployment, per the instructions.

Note that the post-installation tasks for the hot fix are substantial and will take longer than the description of them above might indicate.

Step 5 — Information about Middle Tier Clusters

If you update a cluster on your middle-tier, you will need to reconfigure the machines in the cluster. For information about that process, see the “Add SAS Products to a SAS Middle-Tier Horizontal Cluster” topic in the *SAS Intelligence Platform: Installation and Configuration Guide*, at <http://support.sas.com/documentation/cdl/en/biig/69172/HTML/default/viewer.htm#n09010intelplatform00install.htm#n09009intelplatform00install>.

Contacting SAS Technical Support

If you need assistance with the software, we ask that only SAS support personnel call our Technical Support Division.

- For U.S. and Canadian customers, support is provided from our corporate headquarters in Cary, North Carolina. You may call (919) 677-8008, Monday through Friday.
- Customers outside of the U.S. can obtain local-language technical support through the local office in their countries. Customers in these locations should contact their local office for specific support hours. See <http://support.sas.com/techsup/contact/index.html> for contact information for local offices.