![SAS logo]

SAS Life Science Analytics Framework Macro API 2.2.1

Installation Qualification / Operational Qualification Checklist

Install LSAF SAS Macro API 2.2.1

Version 1.00
Date October 2019

Checklist A: *"Install LSAF SAS Macros"*

Note: This checklist assumes you have completed an installation of LSAF Java API 2.2.1.

Prerequisites: You will need to set the following property in the **lsaf.properties** configuration file on any tcServer instance that is running:

sassession.enable.trusted.connections=true

Checklist A: "Install LSAF SAS Macros"		**Corresponding Document:** *None*	
#	**Activity**	**Expected Results**	**Actual Results**
A1.	Login to an admin PC.	Windows display appears.	
A2.	Using the putty tool, create an **ssh** connection from the admin PC to the **SAS server** and login as **sasadmin**.	You're prompted for the password.	
A3.	Enter the *password* for sasadmin.	You're logged into SAS server.	
A4.	Use the **script** command to capture commands that are typed in the Unix window. The syntax is **script /var/staging_logs/<*servername*>_lsafmacro2.2.1_<*date*>.txt**	System should indicate script has started.	
A5.	From the admin PC, download the **LSAF Java API 2.2.1 Client** distribution from the SAS Technical Support site. After the distribution has been downloaded, use the WinSCP2 tool to copy the file to **/sso/sfw/installers** on the SAS server. Transfer it as a **binary** file using the **sasadmin** userid. **lsaf-java-api-client-2.2.1.zip**	The file is transferred to the SAS server.	

		Corresponding Document: *None*	
Checklist A: "Install LSAF SAS Macros"			
#	*Activity*	*Expected Results*	*Actual Results*
A6.	From the admin PC, download the **LSAF Macro 2.2.1** distribution from the SAS Technical Support site. After the distribution has been downloaded, use the WinSCP2 tool to copy the file to **/sso/sfw/installers** on the SAS server. Transfer it as a **binary** file using the **sasadmin** userid. **lsaf-sas-macro-2.2.1.zip**	The file is transferred to the SAS server.	
A7.	Stop the Object Spawner by typing **/sso/biconfig/940/Lev1/ObjectSpawner/ObjectSpawner.sh stop**	The Object Spawner is stopped.	
A8.	Type **ps –ef | grep sasadmin**	The following process should **not** be running: /bin/sh -p /sso/biconfig/940/Lev1/ObjectSpawner/ObjectSpawner.sh start2_tag	
A9.	Type **cd /sso/sfw/sas/940/SASFoundation/9.4**	Navigate to that directory.	
A10.	Type **mkdir lsafapi**	Directory is created.	
A11.	Type **cd lsafapi**	Navigate to that directory.	
A12.	Type **unzip –q /sso/sfw/installers/lsaf-java-api-client-2.2.1.zip**	Contents of zip file are extracted.	
A13.	Type **unzip –q /sso/sfw/installers/lsaf-sas-macro-2.2.1.zip**	Contents of zip file are extracted.	
A14.	Type **touch lsaf_macros.log**	The file is created.	
A15.	Type **chmod 777 lsaf_macros.log**	Permissions are updated.	
A16.	Type **ls –al**	You see the following directories created: lsaf-java-api-client-2.2.1 lsaf_macros.log lsaf-sas-macro-2.2.1	
A17.	Type **cd /sso/biconfig/940/Lev1/LSAFApp/WorkspaceServer**	Navigate to that directory.	
A18.	Type **vi sasv9_usermods.cfg**	File is opened for edit.	

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#	*Activity*	*Expected Results*	*Actual Results*
A19.	After the comment block, add the following lines: **-insert sasautos "/sso/sfw/sas/940/SASFoundation/9.4/lsafapi/lsaf-sas-macro-2.2.1/sasmacros"** **-JREOPTIONS (** ** -Dsas.app.class.dirs=/sso/sfw/sas/940/SASFoundation/9.4/lsafapi/lsaf-java-api-client-2.2.1/lib:/sso/sfw/sas/940/SASFoundation/9.4/lsafapi/lsaf-sas-macro-2.2.1/lib** ** -Dsession.strategy.classname=com.sas.lsaf.client.impl.TrustedContextSessionStrategyImpl** ** -Dsas.lsaf.macros.trusted=true** ** -Dlog4j.configuration=file:/sso/sfw/sas/940/SASFoundation/9.4/lsafapi/lsaf-sas-macro-2.2.1/conf/linux/log4j.properties** **)** **/* this prevents a classpath not set warning from javaobj */** **-SET CLASSPATH !CLASSPATH** *Note:* Copy and paste this text from the sasv9_usermods.txt file in our staging area.	File is modified.	
A20.	Hit **Esc** and type **:x** to save the file. *Note:* The **log4j.properties** file is configurable and should be modified to point to the correct path to the **lsaf_macros.log** file.	File is saved with changes made.	
A21.	Type **more sasv9_usermods.cfg**	Verify that changes have been saved.	
A22.	Start the Object Spawner by typing **/sso/biconfig/940/Lev1/ObjectSpawner/ObjectSpawner.sh start**	Object Spawner is started and system displays: Spawner is started (pid *nnnnn*)...	

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#	***Activity***	***Expected Results***	***Actual Results***
A23.	Type **ps –ef	grep sasadmin**	The following process should be running: /bin/sh -p /sso/biconfig/940/Lev1/ObjectSpawner/ObjectSpawner.sh start2_tag	
A24.	Hit **Ctrl-D** to stop the script command.	System indicates script stopped running.	
A25.	Type **exit**	The sasadmin userid is logged off the SAS server.	
A26.	Repeat **steps A1 – A25** to deploy the LSAF SAS Macros to any additional SAS processing servers.	Steps repeated as necessary.	

Signature below indicates completion of Checklist A, items A1 – A26, above.

Name (print or type): _____   **Sign-off : _____**   **Date:_____**