



KeyScaler Upgrade Guide

HOW TO GUIDE

Security Level:	Confidential
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Last Edit Date:	3 February 2022
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1 Document Version Control

Version	Description	Date
1.0	Initial Document Creation	3/01/2019
2.0	Generic upgrade version	02/11/2021
3.0	Upgraded Version	27/01/2022

Item 1

2 Reference Document

#	Reference Document
1	Please refer to latest Release Notes for the upgrade version from DA Support

Item 2

3 Introduction

3.1 Document Overview

This document is a guide to upgrading the Device Authority KeyScaler Platform Server Software from the current version to the later version as advised by Device Authority support.

The scope of this

 **Note:**

The upgrade is for both server-side software and for Device Authority client agent, Credential Manager (Linux and Windows Distribution) only. The Client Software will be backwards compatible with previous version of KeyScaler Platform.

The process involves the following key steps:

- Checking the current KeyScaler system
- Stopping the services running
- Backup Database
- Backup KeyScaler - Creating a backup of the (*.war) files
- Removing the old folders
- Downloading and deploying the new (*.war) files
- Upgrade and Migrate Database
- Restart KeyScaler System - Restarting the services on the system
- Verifying the changes
- Sanity testing (by device registration)

4 Prerequisites

4.1 Download Software

KeyScaler software can be obtained from DA Support from the customer Zendesk Portal.

Note: Please contact DA Support for access to Zendesk Portal

4.2 Upload software to KeyScaler Server

Upload the files to the `/tmp` directory of your KeyScaler server, e.g.

```
scp -i <pem file> <download path>/*.war centos@<keyscaler>:/tmp
```

Item 3 – Your computer: Upload files using scp/winscp utility

```
[root@KeyScaler6741 webapps]# ls -al
total 459900
drwxr-xr-x. 10 dfactor_user tomcat    4096 Jan 26 18:40 .
drwxr-xr-x.  9 root          root      160 Jan 25 10:03 ..
drwxr-x--- 13 dfactor_user tomcat    4096 Jan 26 18:07 cp
-rw-r--r--  1 root          root     53554020 Jan 26 18:07 cp.war
drwxr-x---  5 dfactor_user tomcat     48 Jan 26 18:02 keyscaler-services
-rw-r--r--  1 root          root    122182673 Jan 26 18:02 keyscaler-services.war
drwxr-x---  4 dfactor_user tomcat     37 Jan 26 16:59 kms
drwxr-x---  5 dfactor_user tomcat     48 Jan 26 17:39 kms-uservice
-rw-r--r--  1 root          root    67142814 Jan 26 17:38 kms-uservice.war
-rw-r--r--  1 dfactor_user tomcat    67020588 Jan 26 16:59 kms.war
drwxr-xr-x.  2 dfactor_user tomcat     77 Jan 25 10:03 ROOT
drwxr-x---  4 dfactor_user tomcat     63 Jan 26 18:00 service
drwxr-x---  5 dfactor_user tomcat     48 Jan 26 18:40 service-access-controller
-rw-r--r--  1 root          root    44333445 Jan 26 18:40 service-access-controller.war
-rw-r--r--  1 root          root    76680956 Jan 26 18:00 service.war
-rwxr-xr-x  1 root          root      834 Jan 26 18:39 version.sh
drwxr-x--- 17 dfactor_user tomcat     4096 Jan 25 10:06 wizard
-rw-r--r--  1 dfactor_user tomcat    39997021 Jan 25 10:03 wizard.war
[root@KeyScaler6741 webapps]#
```

Item 4 – Files Uploaded to folder on KeyScaler System

4.3 Stop the KeyScaler Service

Log into the KeyScaler system, change to root user and stop the `dfactor` service:

```
[root@host ~]# sudo su
[root@host ~]# service dfactor stop
```

Item 5 – KeyScaler Server: Stop KeyScaler dfactor service

```
[root@KeyScaler6741 devuser]# service dfactor stop
Stopping DeviceAuthority D-Factor
Using DFACTOR_HOME: /var/dfactor
Using IDP_HOME: /var/dfactor/idp
Using CATALINA_BASE: /var/www/tomcat
Using CATALINA_HOME: /var/www/tomcat
Using CATALINA_TMPDIR: /var/www/tomcat/temp
Using JRE_HOME: /usr/java/latest
Using CLASSPATH: /var/www/tomcat/bin/bootstrap.jar:/var/www/tomcat/bin/tomcat-juli.jar
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option MaxPermSize=256m; support was removed in 8.0
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option UseSplitVerifier; support was removed in 8.0
DeviceAuthority D-Factor (pid 3243) is still running... Will attempt to forcefully terminate.
DeviceAuthority D-Factor successfully terminated
[root@KeyScaler6741 devuser]#
```

Item 6 – dfactor service terminated

4.4 Backup Existing System

Before you begin the KeyScaler upgrade, first follow the backup and update procedure outlined below:

4.4.1 Backup Database:

As Linux user *dfactor_user*, run the following commands to backup current KeyScaler database.

Create the backup directory if needed and back up the database. The default database name is *dfactordb*. If your installation has changed the database name, substitute the correct name in the command below.

Note: You will need the root database password in this process.

```
[root@host ~]# su - dfactor_user
[dfactor_user@host ~]

[dfactor_user@host ~]$ mkdir -p /var/dfactor/backups/
[dfactor_user@host ~]$ mysqldump -u root -p dfactordb > /var/dfactor/backups/<date>.dfactordb.sql
```

Item 7 – Back up KeyScaler Database

```
[root@Keyscaler6741 webapps]# su - dfactor_user
Last login: Thu Jan 27 09:01:33 UTC 2022 on pts/0
[dfactor_user@Keyscaler6741 ~]$ mkdir -p /var/dfactor/backups
[dfactor_user@Keyscaler6741 ~]$ mysqldump -u root -p dfactordb > /var/dfactor/backups/720122.dfactordb.sql
Enter password:
[dfactor_user@Keyscaler6741 ~]$ cd /var/dfactor/backups/
[dfactor_user@Keyscaler6741 backups]$ ls -al
total 640
drwxr-x---. 2 dfactor_user tomcat   34 Jan 27 09:04 .
drwxr-xr-x. 8 dfactor_user tomcat   79 Jan 25 10:06 ..
-rw-r--r-- 1 dfactor_user tomcat 655244 Jan 27 09:04 720122.dfactordb.sql
[dfactor_user@Keyscaler6741 backups]$ █
```

Item 8 – Database backup

4.4.2 HA Backup of Databases

Log onto each HA KeyScaler device you have, take a backup of each MySQL database as mentioned in 4.4.1.

Note: If using Azure SQL log into your database using one of the KeyScaler servers and do the following:

```
[root@keyscaler-vm2 cert]# mysqldump -h [your mysql hostname].mysql.database.azure.com -u root@[your mysql hostname] -p dfactordb > /var/dfactor/backups/<date>/dfactordb.sql
Enter password:[Root Password]
```

4.4.3 Backup KeyScaler

4.4.3.1 Backup the KeyScaler /var/dfactor/data folder that contains:

- NSS keystore
- Tenant packages and licenses
- Samples package

```
[dfactor_user@host ~]$ mkdir -p /var/dfactor/backups/dfactor/data
[dfactor_user@host ~]$ cp -R /var/dfactor/data /var/dfactor/backups/dfactor/data
```

Item 9 – Backup Data

4.4.4 Backup KeyScaler

Log onto each individual KeyScaler instance and take a backup of the war files and all of the properties files in /var/dfactor/conf

```
[root@Keyscaler6741 conf]# ls -al
total 36
drwxr-x---. 2 dfactor_user tomcat 237 Jan 29 12:36 .
drwxr-xr-x. 9 dfactor_user tomcat 93 Jan 29 12:36 ..
-rw-r----- 1 dfactor_user tomcat 686 Jan 26 18:06 cp.properties
-rw-r----- 1 dfactor_user tomcat 699 Jan 26 17:59 dae.properties
-rw-r----- 1 dfactor_user tomcat 724 Jan 26 17:35 kms.properties
-rw-r----- 1 dfactor_user tomcat 435 Jan 26 17:37 kmssa.properties
-rw-r----- 1 dfactor_user tomcat 125 Jan 26 18:01 kssa.properties
-rw-r--r--. 1 dfactor_user tomcat 400 Jan 24 16:49 sac-mqtt.properties
-rw-r--r--. 1 dfactor_user tomcat 591 Jan 24 16:47 sac.properties.disabled
-rw-r----- 1 dfactor_user tomcat 176 Jan 26 17:59 securerepo-syslog.properties
-rw-r----- 1 dfactor_user tomcat 451 Jan 26 14:02 wizard.properties
[root@Keyscaler6741 conf]# mkdir backup
[root@Keyscaler6741 conf]# cp * backup/
cp: omitting directory 'backup'
[root@Keyscaler6741 conf]# ls -al backup/
total 36
drwxr-xr-x. 2 root          root    237 Jan 29 12:36 .
drwxr-x---. 3 dfactor_user tomcat  251 Jan 29 12:36 ..
-rw-r----- 1 root          root    686 Jan 29 12:36 cp.properties
-rw-r----- 1 root          root    699 Jan 29 12:36 dae.properties
-rw-r----- 1 root          root    724 Jan 29 12:36 kms.properties
-rw-r----- 1 root          root    435 Jan 29 12:36 kmssa.properties
-rw-r----- 1 root          root    125 Jan 29 12:36 kssa.properties
-rw-r--r--. 1 root          root    400 Jan 29 12:36 sac-mqtt.properties
-rw-r--r--. 1 root          root    591 Jan 29 12:36 sac.properties.disabled
-rw-r----- 1 root          root    176 Jan 29 12:36 securerepo-syslog.properties
-rw-r----- 1 root          root    451 Jan 29 12:36 wizard.properties
[root@Keyscaler6741 conf]#
```

4.4.4.1 Rename the KeyScaler dfactor tools (if they were deployed previously)

```
[dfactor_user@host ~]$ mv /var/dfactor/dfactor.tools /var/dfactor/backups/dfactor.tools.datestamp
```

Item 10- Backup KeyScaler tools

4.4.4.2 Back up the application war files:

Backup previous war files to be replaced.

The existing *.war files can be found in the following directory:

```
[root@host ~]# cd /var/www/tomcat/webapps
```

Item 11 – *.war file directory

```
[root@Keyscaler6741 webapps]# ls -al
total 459900
drwxr-xr-x. 10 dfactor_user tomcat      4096 Jan 26 18:40 .
drwxr-xr-x.  9 root         root        160 Jan 25 10:03 ..
drwxr-x--- 13 dfactor_user tomcat      4096 Jan 26 18:07 cp
-rw-r--r--  1 root         root     53554020 Jan 26 18:07 cp.war
drwxr-x---  5 dfactor_user tomcat        48 Jan 26 18:02 keyscaler-services
-rw-r--r--  1 root         root 122182673 Jan 26 18:02 keyscaler-services.war
drwxr-x---  4 dfactor_user tomcat        37 Jan 26 16:59 kms
drwxr-x---  5 dfactor_user tomcat        48 Jan 26 17:39 kms-user-service
-rw-r--r--  1 root         root   67142814 Jan 26 17:38 kms-user-service.war
-rw-r--r--  1 dfactor_user tomcat  67020588 Jan 26 16:59 kms.war
drwxr-xr-x.  2 dfactor_user tomcat        77 Jan 25 10:03 ROOT
drwxr-x---  5 dfactor_user tomcat        63 Jan 26 18:00 service
drwxr-x---  5 dfactor_user tomcat        48 Jan 26 18:40 service-access-controller
-rw-r--r--  1 root         root  44333445 Jan 26 18:40 service-access-controller.war
-rw-r--r--  1 root         root   76680956 Jan 26 18:00 service.war
-rwxr-xr-x  1 root         root        834 Jan 26 18:39 version.sh
drwxr-x--- 17 dfactor_user tomcat      4096 Jan 25 10:06 wizard
-rw-r--r--  1 dfactor_user tomcat  39997021 Jan 25 10:03 wizard.war
[root@Keyscaler6741 webapps]#
```

Item 12 – List of all the existing *.war files

Create a new directory e.g. *backup/webapps* and move these *.war files into that new directory:

```
[dfactor_user@host ~]$ mkdir /var/dfactor/backups/webapps
[dfactor_user@host ~]$ cp /var/www/tomcat/webapps/*.war /var/dfactor/backups/webapps/
```

Item 13 – Backup the *.war files

4.5 Remove the old folders

For the new *.war files to take effect, first delete their respective folders, so that new ones get created.

```
[dfactor_user@host ~]$ cd /var/www/tomcat/webapps/
[dfactor_user@host ~]$ rm -rf cp/
[dfactor_user@host ~]$ rm -rf keyscaler-services/
[dfactor_user@host ~]$ rm -rf kms/
[dfactor_user@host ~]$ rm -rf kms-user-service/
[dfactor_user@host ~]$ rm -rf service/
```

Item 14 – Remove the old folders

If the SAC is running on the same server:

```
[dfactor_user@host webapps]$ rm service-access-controller.war
[dfactor_user@host webapps]$ rm -rf service-access-controller/
```

Item 15 – Remove old files and directories for SAC (same server)

If the SAC is running on a different server, transfer the *sac.tar.gz* file to the SAC server. The directions below assume you've put the file in */tmp*

Log into the SAC server, and stop the SAC service

```
[root@host ~]# /var/www/tomcat/bin/shutdown.sh
# change to dfactor_user
[root@host ~]# su - dfactor_user
# remove the existing SAC and deploy the new one
[dfactor_user@host ~]# cd /var/www/tomcat/webapps/
[dfactor_user@host webapps]$ rm service-access-controller.war
[dfactor_user@host webapps]$ rm -rf service-access-controller
```

Item 16 – Separate SAC Server – Remove Old files and directories

At this point, you are ready to upgrade the KeyScaler system.

5 Upgrade KeyScaler

5.1 Upgrade and Migrate Database

Steps outlined in this section must be run as Linux user *dfactor_user*

- 1) Deploy KeyScaler tools (dfactor_tools.tar.gz) under /var/dfactor by using the instructions in Deploying the D-FACTOR tools.

Note: New tools must be deployed with each upgrade - Connect to the Galera cluster, run the migration queries, and it will replicate to the other nodes.

- 2) Run the Database Upgrader tool, **dbupgrade.sh** that will:
 - upgrade the database schema
 - migrate all the data

```
[dfactor_user@host tmp]$ cd /var/dfactor/dfactor.tools/bin/
[dfactor_user@host bin]$ ./dbupgrade.sh

Using MySQL Connector: /var/www/tomcat/lib/mysql-connector-java-5.1.40-bin.jar
DAE Tools 6.7.x Build 108, Copyright (c) 2011-2021, DeviceAuthority Inc., All Rights Reserved.

Migrating D-Factor data based upon the following properties:
Application Home : file:/var/dfactor/dfactor.tools/bin/./
Database        : mysql
JDBC Connect String: jdbc:mysql://localhost:3306/dfactordb
Database Server : localhost
Database Name   : dfactordb
User Name       : dfactor_user

Using Database version: X.U, state: upgradeComplete

Added X.Y.0.1 upgrader..
Please select one of these options to do database upgrade:
0. Exit
1. Upgrade Schema
2. Migrate Data (Important: migrate data only after all nodes have completed the schema upgrade)

Please enter [0/1/2] to proceed with the upgrade: 1
CAUTION: This schema upgrade utility will connect to D-Factor Database
so that it will be usable by the current release of D-Factor.
The database should be backed up before you proceed.

IMPORTANT: Please ensure the following before proceeding:
- Your database is BACKED UP
- Your database is UP and RUNNING
- The D-Factor is NOT RUNNING

Do you want to continue? [y/n] (Default: n) y

Upgrading database schema from "X.Y.0.1" to "X.Y.0.2"
```


Upgrading schema...

Schema upgrade from "X.Y.0.1" to "X.Y.0.2" complete.

Please select one of these options to do database upgrade:

0. Exit

1. Upgrade Schema

2. Migrate Data (Important: migrate data only after all nodes have completed the schema upgrade)

Please enter [0/1/2] to proceed with the upgrade: 2

CAUTION: This data migration utility will connect to D-Factor Database and migrate the data so that it will be usable by the current release of D-Factor. The database should be backed up before you proceed.

IMPORTANT: Please ensure the following before proceeding:

- Your database is BACKED UP
- Your database is UP and RUNNING
- The D-Factor is NOT RUNNING

Do you want to continue? [y/n] (Default: n) y

Data will be migrated from version "X.U" to version "X.Y.0.6"

Migrating database from "X.U" to "X.Y.0.1"

migrating data...

Data migration complete, performing post-migration schema actions...

Database migration from "X.U" to "X.Y.0.1" complete.

Item 17 -Updating the database schema and Migrating the Data

```

dfactor_user@ip-172-31-16-138:/var/dfactor/dfactor.tools/bin
dfactor_user$ ./dbupgrade.sh
Using MySQL Connector: /var/www/tomcat/lib/mysql-connector-java-5.1.40-bin.jar
DAE Tools 6.5.0 Build 135, Copyright (c) 2011-2017, DeviceAuthority Inc., All Rights Reserved.

Migrating D-Factor data based upon the following properties:
Application Home : file:/var/dfactor/dfactor.tools/bin/./
Database         : mysql
JDBC Connect String: jdbc:mysql://localhost:3306/dfactordb
Database Server  : localhost
Database Name    : dfactordb
User Name       : dfactor_user

Using Database version: 6.3.5.1, state: upgradeComplete

Added 6.4.1.1 upgrader..
Added 6.4.1.2 upgrader..
Added 6.5.0.1 upgrader..
Please select one of these options to do database upgrade:
0. Exit
1. Upgrade Schema
2. Migrate Data (Important: migrate data only after all nodes have completed the schema upgrade)

Please enter [0/1/2] to proceed with the upgrade: 1
CAUTION: This schema upgrade utility will connect to D-Factor Database
so that it will be usable by the current release of D-Factor.
The database should be backed up before you proceed.

IMPORTANT: Please ensure the following before proceeding:
- Your database is BACKED UP
- Your database is UP and RUNNING
- The D-Factor is NOT RUNNING

Do you want to continue? [y/n] (Default: n) y

Upgrading database schema from "6.3.5.1" to "6.4.1.1"
Upgrading schema...
Schema upgrade from "6.3.5.1" to "6.4.1.1" complete.
Upgrading database schema from "6.4.1.1" to "6.4.1.2"
Upgrading schema...
Schema upgrade from "6.4.1.1" to "6.4.1.2" complete.
Upgrading database schema from "6.4.1.2" to "6.5.0.1"
Upgrading schema...
Schema upgrade from "6.4.1.2" to "6.5.0.1" complete.

```

Item 18 – Schema Upgrade Output

```

Please select one of these options to do database upgrade:
0. Exit
1. Upgrade Schema
2. Migrate Data (Important: migrate data only after all nodes have completed the schema upgrade)

Please enter [0/1/2] to proceed with the upgrade: 2
CAUTION: This data migration utility will connect to D-Factor Database
and migrate the data so that it will be usable by the current
release of D-Factor. The database should be backed up before you
proceed.

IMPORTANT: Please ensure the following before proceeding:
- Your database is BACKED UP
- Your database is UP and RUNNING
- The D-Factor is NOT RUNNING

Do you want to continue? [y/n] (Default: n) y

Data will be migrated from version "6.3.5.1" to version "6.5.0.1"
Migrating database from "6.3.5.1" to "6.4.1.1"
    migrating data...
    Data migration complete, performing post-migration schema actions...
    Database migration from "6.3.5.1" to "6.4.1.1" complete.
Migrating database from "6.4.1.1" to "6.4.1.2"
    migrating data...
    Data migration complete, performing post-migration schema actions...
    Database migration from "6.4.1.1" to "6.4.1.2" complete.
Migrating database from "6.4.1.2" to "6.5.0.1"
    migrating data...
    Data migration complete, performing post-migration schema actions...
    Database migration from "6.4.1.2" to "6.5.0.1" complete.
[dfactor_user@ip-172-31-16-138 bin]$
  
```

Item 19 – Database Migration Output

Note: For an HA Environment you only need to do this on one SQL server on the cluster and sync when brought back online.

5.2 Upgrade Tenant Packages – Not needed for 6.7.3 to 6.7.4 upgrade.

In this step, you will be updating the Tenant Accounts onto the server that will be running the KeyScaler Control Panel.

- Core Package for Tenant accounts contains DDKG libraries and KeyScaler Agents for Tenants.

Note: You will need to have the **Tenant Account Number** available for these steps

1) On the KeyScaler server that is running the Control Panel, go to the `/var/dfactor` directory

```
[dfactor_user@host ~]$ cd /var/dfactor
```

Item 20 – Change Directory

2) As the Linux user `dfactor_user`, unzip the tenant CP and DAE tenant packages into CP's hosted downloaded directory (`/var/dfactor/data/cp-hosted-downloads`)

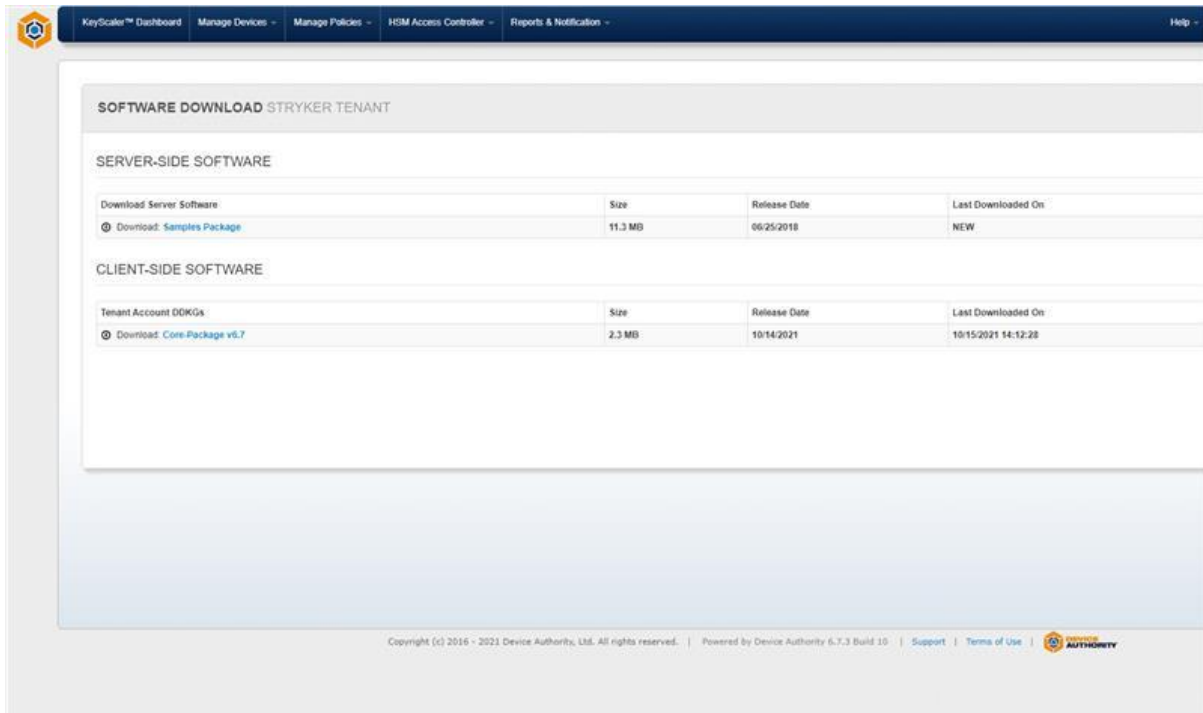
```

## Install Tenant ddkgs (Make sure you have the correct ddkg package for that tenant)
[dfactor_user@host ~]$ mv /var/dfactor/data/cp-hosted-downloads/<1st tenant_account_number> /var/dfactor/data/cp-hosted-downloads/<tenant_account_number>.backup
[dfactor_user@host ~]$ cp core6.7.zip /var/dfactor/data/cp-hosted-downloads/<tenant_account_number>
  
```

If there are additional tenants, repeat the above steps for each additional tenant account. Make sure the correct ddkg package for the specific tenant

Item 21 – Upgrade Tenant Packages

Note: For HA environment, you will need to make sure this is done for each KeyScaler instance that hosts the CP component.



Item 22- KeyScaler CP – Sample Updated Download Software Screen

5.2.1 Deploy KeyScaler Software Components

Deploy the new war files that will upgrade system from current version to latest version

Copy the *.war files that were uploaded to the KeyScaler system in section 4.2 Upload software to KeyScaler Server to webapps directory:

```
[root@host ~]# cp /home/centos/tmp/*.war /var/www/tomcat/webapps/
[root@host ~]# ls -al
```

Item 23 – Copy *.war files to the webapps directory

```
[root@ip-172-31-16-138 KS6.5]# cp *.war /var/www/tomcat/webapps/
cp: overwrite '/var/www/tomcat/webapps/cp.war'? y
cp: overwrite '/var/www/tomcat/webapps/keyscaler-services.war'? y
cp: overwrite '/var/www/tomcat/webapps/kms-user-service.war'? y
cp: overwrite '/var/www/tomcat/webapps/kms.war'? y
cp: overwrite '/var/www/tomcat/webapps/service-access-controller.war'? y
cp: overwrite '/var/www/tomcat/webapps/service.war'? y
[root@ip-172-31-16-138 KS6.5]# ls -al /var/www/tomcat/webapps/
total 397464
drwxr-xr-x.  4 dfactor_user tomcat      189 Aug 14 14:54 .
drwxr-xr-x.  9 root        root        160 Dec  6  2018 ..
-rw-r--r--.  1 root        root       33622319 Aug 14 16:22 cp.war
-rw-r--r--.  1 root        root    111618572 Aug 14 16:22 keyscaler-services.war
-rw-r--r--.  1 root        root    52948067 Aug 14 16:22 kms-user-service.war
-rw-r--r--.  1 root        root    58811030 Aug 14 16:22 kms.war
drwxr-xr-x.  2 dfactor_user tomcat       77 Dec  6  2018 ROOT
-rw-r--r--.  1 root        root    37251409 Aug 14 16:22 service-access-controller.war
-rw-r--r--.  1 root        root    73213073 Aug 14 16:22 service.war
drwxr-x---. 17 dfactor_user tomcat      4096 Dec  6  2018 wizard
-rw-r--r--.  1 dfactor_user tomcat   39520998 Dec  6  2018 wizard.war
[root@ip-172-31-16-138 KS6.5]#
```

Item 24 – Sample list of all KeyScaler war file components in webapps directory

Note: For HA Environment, make sure to do this on each KeyScaler instance. Make sure to check the properties files are ready and available for the KeyScaler instance to use.

If the SAC is running on a different server, transfer the sac.tar.gz file to the SAC server and unpack the file. The directions below assume you've put the file in /tmp:

```
[dfactor_user@host webapps]$ tar -xvzf /tmp/service-access-controller.war -C /var/www/tomcat/webapps
```

Item 25 - Deploy the SAC software on separate SAC server

5.3 Post-Upgrade Verification

Run all the below command as Linux `root` user to check the version of each KeyScaler component

```
[root@host webapps]$ ./version.sh
```

Item 26 – KeyScaler components version check script

```
[root@Keyscaler6741 webapps]# ./version.sh
*****
KeyScaler Version
*****
DAE >> 6.7.4.1.1
SAC >> 6.7.4.1.1
KMS >> 6.7.4.1.2
KMS-MS >> 6.7.4.1.1
KS-MS >> 6.7.4.1.1
CP >> 6.7.4.1.1
[root@Keyscaler6741 webapps]#
```

Item 27 – Sample output of KeyScaler Version script

Check that all the components are matching with the latest version you have upgraded to.

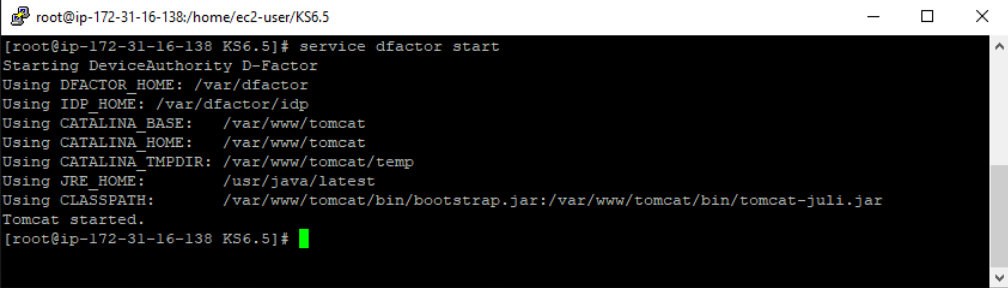
5.1 Start the KeyScaler Service

Check that you are root user and start the *dfactor* service:

```
[root@host ~]# sudo su  
[root@host ~]# service dfactor start
```

Item 33 – KeyScaler Server: Start KeyScaler Server

Note: For an HA environment make sure you start the services on ALL KeyScaler instances.



```
root@ip-172-31-16-138:/home/ec2-user/KS6.5  
[root@ip-172-31-16-138 KS6.5]# service dfactor start  
Starting DeviceAuthority D-Factor  
Using DFACTOR_HOME: /var/dfactor  
Using IDP_HOME: /var/dfactor/idp  
Using CATALINA_BASE: /var/www/tomcat  
Using CATALINA_HOME: /var/www/tomcat  
Using CATALINA_TMPDIR: /var/www/tomcat/temp  
Using JRE_HOME: /usr/java/latest  
Using CLASSPATH: /var/www/tomcat/bin/bootstrap.jar:/var/www/tomcat/bin/tomcat-juli.jar  
Tomcat started.  
[root@ip-172-31-16-138 KS6.5]#
```

Item 34 – dfactor service started

If the SAC is running on a different server, The directions below assume you've put the file in /tmp:

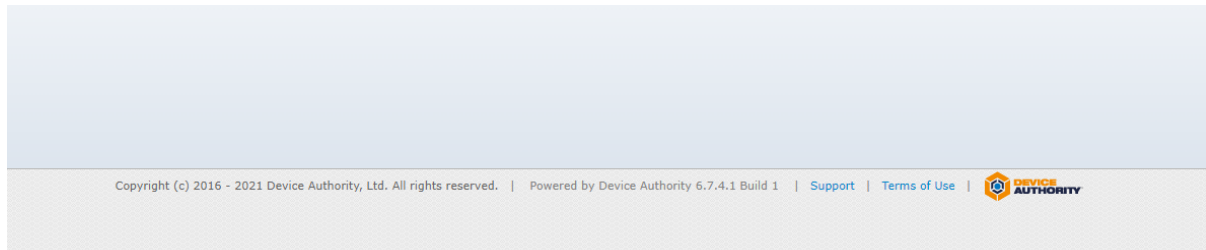
```
# start the Service Access Controller  
[root@host ~]# sudo su  
[root@host ~]# service dfactor start
```

Item 35 – Start SAC services

Upgrade Sanity Tests

5.2 KeyScaler Control Panel

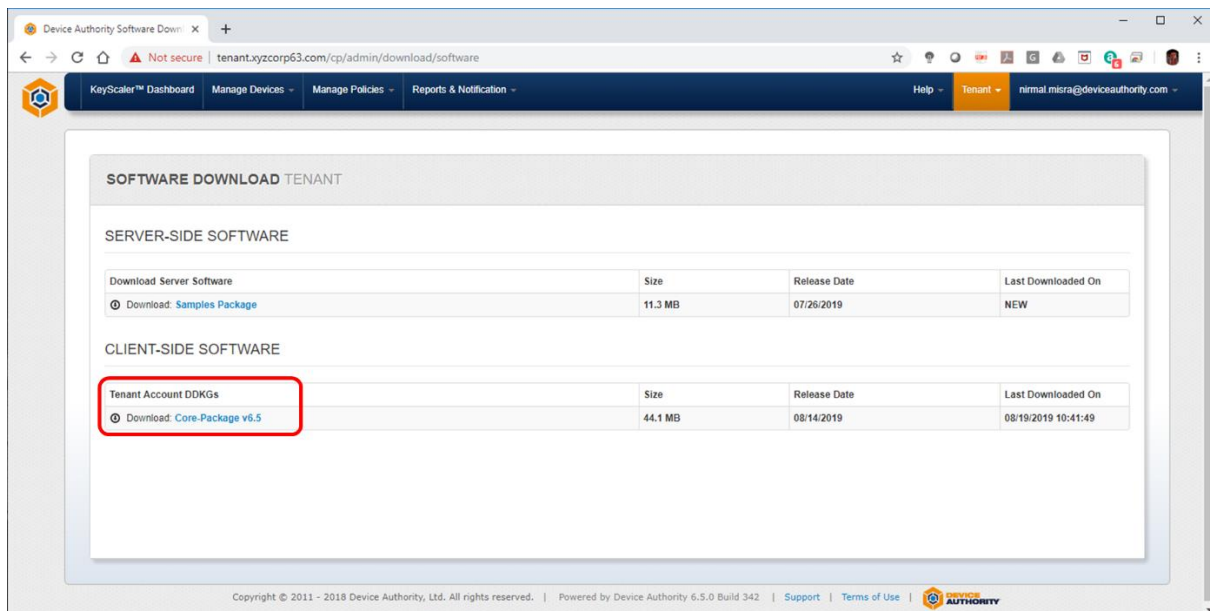
Login to the control panel and check all looks normal. Ensure the version at the bottom of the page matches the latest version you have deployed:



Item 36 – Check KeyScaler version Number (highlighted in Red box)

5.3 Download Core Packages

Ensure the Core Packages can be downloaded without experiencing any issues.



Item 37 – Control Panel: Download Software

5.4 Curl to the SAC

From any device ensure you can curl to the SAC and get a 200 message back as follows:

```
root@host:~$ curl -v https://sac.xyzcorp63.com:8443/service-access-controller/health/ping
```

Item 38 – Your computer: CURL Test command

```
root@ip-172-31-32-254: /usr/local/deviceauthority/sbin
root@ip-172-31-32-254: /usr/local/deviceauthority/sbin# curl -v https://sac.xyzcorp63.com:8443/service-access-controller/health/ping
* Trying 54.212.103.77...
* Connected to sac.xyzcorp63.com (54.212.103.77) port 8443 (#0)
* found 148 certificates in /etc/ssl/certs/ca-certificates.crt
* found 594 certificates in /etc/ssl/certs
* ALPN, offering http/1.1
* SSL connection using TLS1.2 / ECDHE_RSA_AES_128_GCM_SHA256
* server certificate verification OK
* server certificate status verification SKIPPED
* common name: *.xyzcorp63.com (matched)
* server certificate expiration date OK
* server certificate activation date OK
* certificate public key: RSA
* certificate version: #1
* subject: C=UK, ST=BE, L=Reading, O=fbn, OU=Tech, CN=*.xyzcorp63.com, EMAIL=frode.nilsen@deviceauthority.com
* start date: Thu, 06 Dec 2018 20:20:22 GMT
* expire date: Fri, 06 Dec 2019 20:20:22 GMT
* issuer: C=UK, ST=BE, L=Reading, O=fbn, OU=Tech, CN=*.xyzcorp63.com, EMAIL=frode.nilsen@deviceauthority.com
* compression: NULL
* ALPN, server did not agree to a protocol
> GET /service-access-controller/health/ping HTTP/1.1
> Host: sac.xyzcorp63.com:8443
> User-Agent: curl/7.47.0
> Accept: */*
>
< HTTP/1.1 200
< Cache-Control: private
< Expires: Thu, 01 Jan 1970 00:00:00 GMT
< Content-Type: application/json;charset=UTF-8
< Transfer-Encoding: chunked
< Date: Mon, 19 Aug 2019 11:13:30 GMT
<
* Connection #0 to host sac.xyzcorp63.com left intact
{"requestId":"dc71adec-4232-4807-bce2-97c7577a8e53","responseTimestamp":1566213210765,"httpCode":200,"statusCode":0,"version":"6.5.0.135"}root@ip-172-31-32-254: /usr/local/deviceauthority/sbin#
```

Item 39 – Your computer: CURL Test output



Important: In case of any issue please Contact DeviceAuthority Support, support@deviceauthority.com

----- End of Document -----