CA Release Automation Upgrade Guide
Upgrading from RA 5.0.2 or higher to RA 6.x

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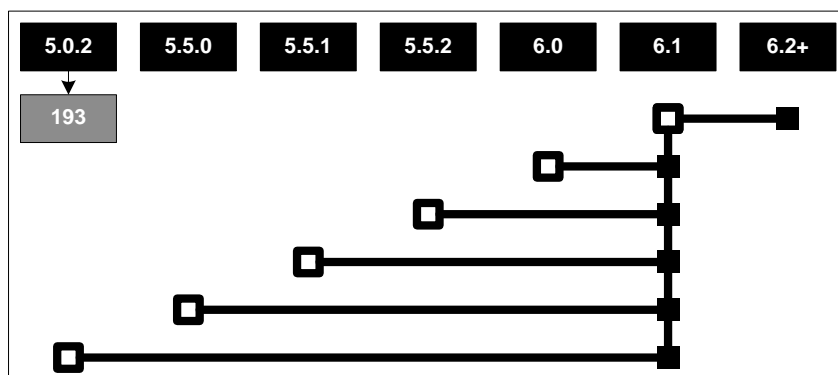
Document History

- Created 11/15/2016 by Mike Long, SWAT
- Updated to show RA 6.3 by Manjunath Narayan and Mike Long, SWAT – 1/3/2017
- Added Enabling JMX fix for extra spaces by Mike Long, SWAT – 1/11/2017

Upgrade Path:

This document is a guide for upgrading an existing CA Release Automation installation, version 5.0.2 or higher. In general, the upgrade is a two-step process, since every version has to be upgraded to the 6.1 version before it can be upgraded to the current 6.x version of CA Release Automation.

5.0.2	5.5.0	5.5.1	5.5.2	6.0	6.1	6.2+

The Build of each version does not matter with the exception of CA Release Automation 5.0.2 which must have the 193 Patch applied before it can be upgraded to the 6.1 version. Once CA Release Automation is upgraded to the 6.1 version, it can then be upgraded to the current 6.x version.

It should be noted that Agents that have been upgraded to the 5.5.1 version do not need to be upgraded and will work with all versions of CA Release Automation through the 6.x version. Only 5.0.2 to 5.5.0 Agents will need to be upgraded and they can be upgraded directly to the RA 6.x version without having to be upgraded to 6.1 first.

Terminology:

- CA Release Automation   RA
- Release Automation Management Server   NAC
- Execution Server   NES
- Release Operation Center   ROC
- Automation Studio   ASAP
- RA Installation Folder   RA_HOME
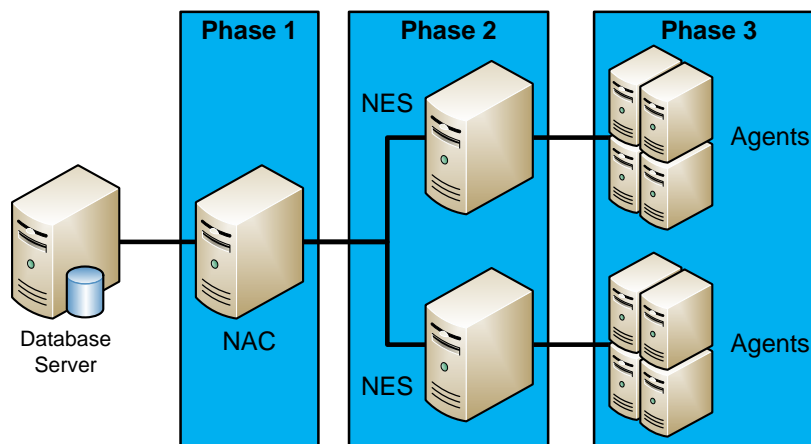
Before You Upgrade:

This upgrade process is pretty simple; however, it is always a good idea to be prepared. On the Upgrade website, please review the **Pre-Upgrade Tasks and Considerations** document before starting. This document contains ideas and items that should be taking into consideration before upgrading any environment. All come from real world situation and experience. That being said, if possible please do the following:

- Backup the Database
- Backup the folders and file under the RA_HOME directory
- If the NAC and NES are on virtual machines, take a Snapshot

All of these are Best Practices against any potential issues that may arise.

Architecture:

When upgrading an RA infrastructure, it should be approached in 3 phases, NAC, NES, and Agents.

1. NAC server or servers should be upgraded first. If this is a High Availability RA infrastructure, then the Primary NAC should be done first, then the secondary or backup NAC, and finally the Primary NAC should be made active or primary again.
   a. Primary NAC
   b. Secondary NAC
2. NES Servers
   a. (Optional) Preferably one at a time to allow for failover and connectivity issues to automatically resolve themselves once communication is re-established with the NAC and Agents.
   b. As a Best Practice, you should do a small test after upgrading one or two NES servers to validate that the upgrade is successful and your deployments are working.
3. Agent Servers
   a. If the Agents are RA 5.0.2 or 5.5.0 then they should be upgraded after all NAC and NES servers have been upgraded, unless you are doing a small group to validate and test the upgrade.
   b. Agents do not need to be upgraded to RA 6.1 before being upgraded to RA 6.2 or higher, they can be upgraded straight to the 6.x version.

Pre-Upgrade Steps:

For a complete list please consult the **Pre-Upgrade Tasks and Considerations** document before starting your upgrade. The following are basic things that need to be double checked and done before starting the upgrade:

- Check that there are no active, running, "In Queue", or scheduled jobs
- Check that all User Interfaces (ROC, ASAP, and Dashboard) are closed
- Stop all CA Release Automation Services the server
    - On the NAC server this would be:
        - Nolio Release Automation Server
        - Nolio Update Service
    - On the NES server this would be:
        - Nolio Release Automation Server
        - Nolio Release Automation Server Watchdog

Upgrade:

1. **Applying the 193 Patch to RA 5.0.2** – If the RA installation is 5.0.2 and has not had the 193 Patch applied, then this patch must be applied. This patch has several steps and the README should be reviewed before applying the patch. A guide to applying this patch is in the Appendix of this document.

2. **Upgrading to RA 6.1** – A step-by-step guide for performing this upgrade is in the Appendix. In general, the Upgrade Wizard should default to the correct settings and guide you through the upgrade.

3. **Upgrading to RA 6.3** – At this time, RA 6.3 is the most current release of RA. A step-by-step guide for performing this upgrade is in the Appendix. In general, the Upgrade Wizard should default to the correct settings and guide you through the upgrade.

    Note: RA 6.3 is a new release so there are no patches that need to be applied at this time, skip Step 4.

4. **Apply latest Patch** – The patches have become much easier to apply than in the past. In general, you just need to run either the script once you have extracted the patch to the RA_Home folder.

    -   Windows: There is still an issue with the 260-character limitation when extracting the patch.

Post Upgrade Steps:

The following should be done from every computer that is used to access RA:

-   Open a Command Prompt and clear the Java cache by entering javaws –uninstall
-   Open all Browsers that has been used in the past to access RA and clear the Browser's cache

Appendix

Applying the 193 Patch to RA 5.0.2

Pre-Installation Instructions:

Windows Only:

Because Windows has a 260-character limitation special care must be taken when extracting the ZIP file for most RA Patches. The following is a suggested method:

1. Extract the file to a single letter drive either C:\ or C:\0\ it cannot be to a drive with anymore characters than that.
2. Once extracted there will be a Fix_Maintenance folder, CUT (do not Copy) this folder and Paste it in the RA_HOME directory

Once extracted you will find the following scripts that need to be executed:

Fix_Maintenance\RA_502_Cumulative_b193_21837902543690936:
- o Windows: win_script.bat
- o Linux/Solaris: linux_solaris_script.sh

Fix_Maintenance\RA_502_Cumulative_b193_21837902543690936\RA_5.0.2_Cumulative-b193:
- o Windows: win_script_disableJMX_NAC_NES_RunOnlyOnce.bat
- o Windows: win_script_enableJMX_NAC_NES_RunOnlyOnce.bat
- o Windows: win_script_removeInstallNolio_NAC_RunOnlyOnce.bat
- o Linux/Solaris: linux_disableJMX_NAC_NES_RunOnlyOnce.sh
- o Linux/Solaris: linux_enableJMX_NAC_NES_RunOnlyOnce.sh
- o Linux/Solaris: linux_updateESAPI_NAC_RunOnlyOnce.sh

Windows Only:

If you have renamed the following services, please create the following system environment variable setting these values if they have changed because the win_script.bat will use these values to stop and start these services:
- On the NAC server this would be:
  - o Nolio Release Automation Server   NOLIO_SERVER_SERVICE
  - o Nolio Update Service   UPDATE_SERVICE_NAME
- On the NES server this would be:
  - o Nolio Release Automation Server   NOLIO_SERVER_SERVICE
  - o Nolio Release Automation Server Watchdog   WATCHDOG_SERVICE_NAME

Linux Only:

- Extract patch so that the Fix_Maintenance folder is in the RA_HOME directory

Note: Please review the README for updated or more detailed instructions concerning this patch

Installation Instructions:

Please make sure there are no running deployment jobs before applying the fix.

Apply this patch to all NAC and NES servers using the "no start" option.

Windows Only:

1. Navigate to the RA_502_Cumulative_b193_21837902543690936 folder
2. Execute: win_script.bat –nostart

Linux Only:

1. Navigate to the RA_502_Cumulative_b193_21837902543690936 folder
2. Execute: ./linux_solaris_script.sh –nostart

Post-Installation Instructions:

Removing and Installing the Windows RA Service

This batch file will remove the existing "Nolio Release Automation Server" and replace it with a new "Nolio Release Automation Server". It should be noted that if you are running this service with a user other than "Local System", then after the script runs you will need to open the service and change the user from "Local System" back to user you have configured.

Windows Only:

This script should only be executed on the NAC servers using the "no start" option.
1. Navigate to the \RA_5.0.2_Cumulative-b193 folder
2. Execute: win_script_removeInstallNolio_NAC_RunOnlyOnce.bat –nostart

Updating the catalina file

Windows Only:
This may have been done in an earlier patch, but if not it should be done at this time.
1. Open the (RA_Home)\bin\catalina.bat file and find the following section:

```
rem Guess CATALINA_HOME if not defined
set "CURRENT_DIR=%cd%"
set JAVA_OPTS=%JAVA_OPTS% -Djava.library.path="%cd%\bin"
set JAVA_OPTS=%JAVA_OPTS% -Duser.country=US -Duser.language=en
set JAVA_OPTS=%JAVA_OPTS% -XX:+HeapDumpOnOutOfMemoryError
```

2. Add the following entry at the bottom of the section:

```
set JAVA_OPTS=%JAVA_OPTS% –Dorg.owasp.esapi.resources="%cd%\conf"
```

Linux Only:

Running the **l**inux_updateESAPI_NAC_RunOnlyOnce.sh is mandatory to update the catalina.sh file. RUN_AS_USER will no longer be configured in deployer_daemon.sh, so if you had set a specific user in the deployer_daemon.sh, you must follow the detailed Post-Installation Instructions in the README document included with the 193 Patch.

1. Go to the RA_5.0.2_Cumulative-b193 folder
2. Enter: chmod 755 lin*
3. Execute the following command: ./linux_updateESAPI_NAC_RunOnlyOnce.sh

This linux_updateESAPI_NAC_RunOnlyOnce.sh script will update the catalina.sh file and insert the following lines after the JAVA_OPTS line automatically:

```
# add ESAPI.properties file location
JAVA_OPTS="$JAVA_OPTS -Dorg.owasp.esapi.resources=./conf"
```

Enable or Disable JMX

The following scripts are mandatory and must be run on all NAC and NES servers. Agent machines are optional consult the README for instruction regarding enabling and disabling JMX on Agents.

Windows Only:

1. Navigate to the \RA_5.0.2_Cumulative-b193 folder
2. Execute either:
   - win_script_enableJMX_NAC_NES_RunOnlyOnce.bat
   - win_script_disableJMX_NAC_NES_RunOnlyOnce.bat

Linux Only:

1. Navigate to the /RA_5.0.2_Cumulative-b193 folder
2. Execute either:
   - ./linux_enableJMX_NAC_NES_RunOnlyOnce.sh
   - ./inux_disableJMX_NAC_NES_RunOnlyOnce.sh

Please perform the following task if you are Enabling the JMX on the NAC or NES servers.

Once you have run the script to Enable JMX go to the distribution.properties file which is located:

- On the NAC: RA_HOME\webapps\datamanagement\WEB-INF
- On the NES   RA_HOME\webapps\execution\WEB-INF

Open the file and find the following section

```
jmx.web.console.enabled=true
jmx.web.console.username=nolio
jmx.web.console.password=nolio
jmx.web.console.port=20203
jmx.web.console.ssl.enabled=false
jmx.web.console.ssl.keystore.path=conf//nolio.jks
jmx.web.console.ssl.keystore.password=A30B6F1F8F7A0E456311C3142AE07D7A
```
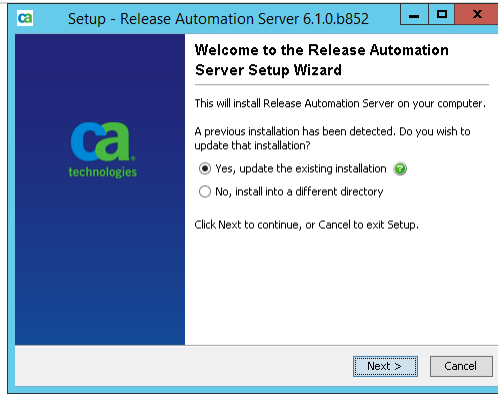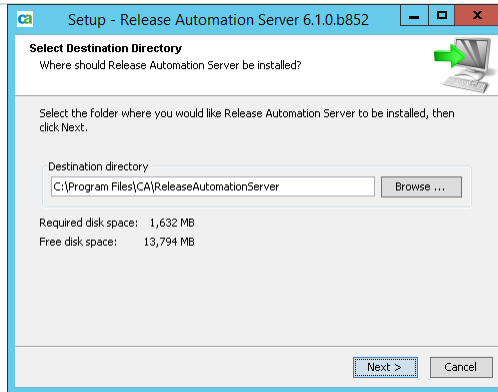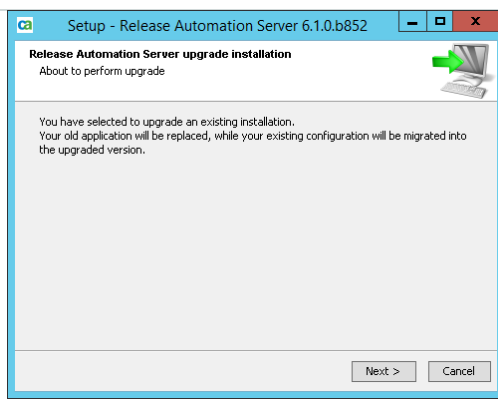
Highlight this section and check to see if a blank space is present at the end of each line. If this space is there, remove it and then restart the server service.
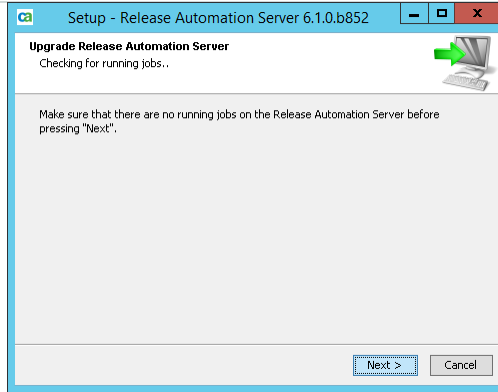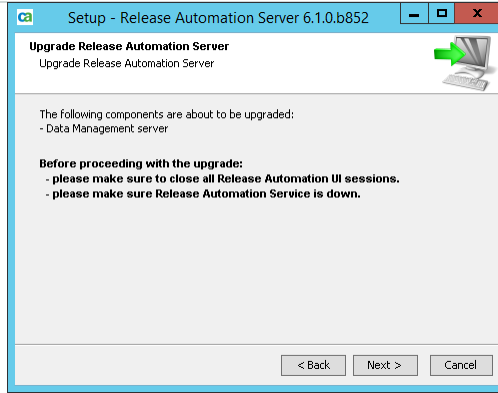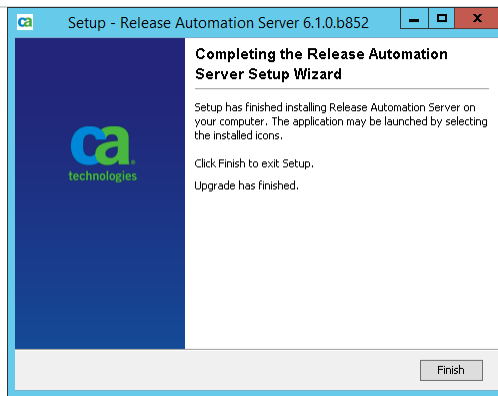
Restart the RA Services on all Window and Linux NAC and NES servers

Note: Please review the README for updated or more detailed instructions concerning this patch
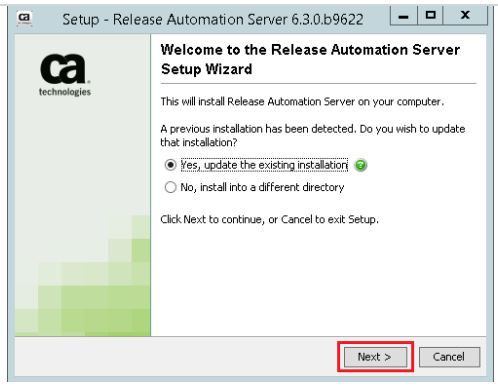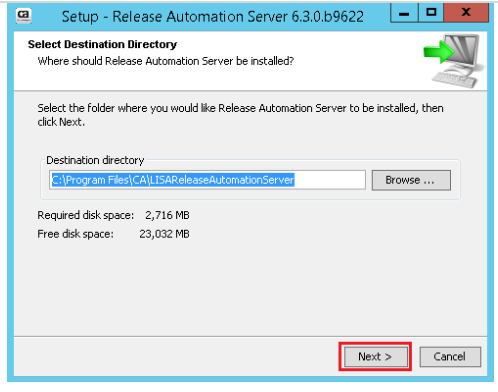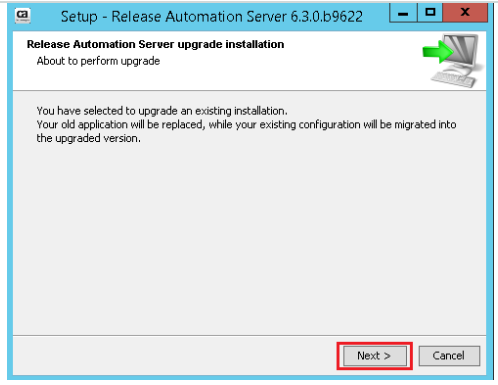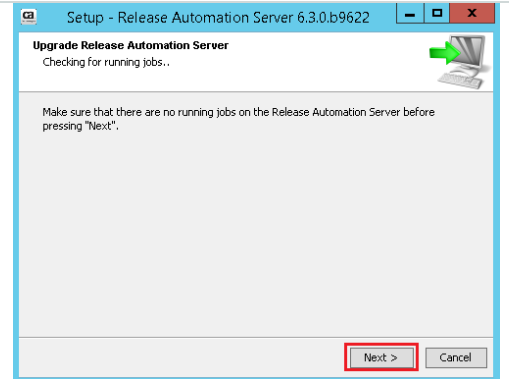
Upgrading to RA 6.1

1. Download the RA 6.1 media
  • Windows: **DVD03151447E**
  • Linux: **DVD03151333E**
2. Load or mount the media
3. Execute the Setup Wizard
  • Windows: **nolio_server_windows-x64_6_1_0_b852**
  • Linux: **nolio_server_linux-x64_6_1_0_b852**
4. Verify that **Yes, upgrade the existing installation** is selected
5. Click **Next**
	Setup - Release Automation Server 6.1.0.b852
	
	Welcome to the Release Automation Server Setup Wizard
	
	This will install Release Automation Server on your computer.
	
	A previous installation has been detected. Do you wish to update that installation?
	
	◉ Yes, update the existing installation
	○ No, install into a different directory
	
	Click Next to continue, or Cancel to exit Setup.
	
	[Next >] [Cancel]

6. This should default to the installation directory of the current RA installation • If it is not, click Browse to find and enter the correct location **Note:** This location may be named different based upon the original initial installation of RA. 7. Click **Next**	*Setup - Release Automation Server 6.1.0.b852* **Select Destination Directory** Where should Release Automation Server be installed? Select the folder where you would like Release Automation Server to be installed, then click Next. Destination directory C:\Program Files\CA\ReleaseAutomationServer [Browse ...] Required disk space: 1,632 MB Free disk space: 13,794 MB [Next >] [Cancel]
8. This is to confirm that the old installation will be replaced and the existing content upgraded. 9. Click **Next** to confirm	*Setup - Release Automation Server 6.1.0.b852* **Release Automation Server upgrade installation** About to perform upgrade You have selected to upgrade an existing installation. Your old application will be replaced, while your existing configuration will be migrated into the upgraded version. [Next >] [Cancel]

10. This should have been done in the Pre-Upgrade • Make sure that there are no active or scheduled jobs 11. Click **Next** to confirm	

12. This should have been done in Pre-Upgrade
    • Close all RA UI (ROC and ASAP) Sessions
    • Stop all RA Services
 	
Note: The list of components may differ based upon what is installed on this local server.
 	
13. Click **Next** to confirm
 	
Note: On a NES only server there will be an error message saying "Unable to stop Update Service". This is because that service does not exist on a NES only server, click OK	

14. If you monitor the Upgrade Steps they will be something like this:
   a. Services will be stopped if they are not already stopped
   b. Old files and folders will be moved to the upgradeBackup folder
   c. New files and folders will be copied in to their proper locations
   d. Services will be started
   e. Temporary files will be deleted
15. Click **Finish**	

Upgrading to the RA 6.3

1. Download the RA 6.3 media
   • Windows: **DVD12153651E**
   • Linux: **DVD12153502E**
2. Load or mount the media
3. Execute the Setup Wizard
   • Windows: **nolio_server_windows-x64_6_3_0_b9622**
   • Linux: **nolio_server_linux-x64_6_3_0_b9622**
4. Verify that **Yes, upgrade the existing installation** is selected
5. Click **Next**	

6. This should default to the installation directory of the current RA installation • If it is not, click Browse to find and enter the correct location **Note:** This location may be named different based upon the original initial installation of RA. 7. Click **Next**	
8. This is to confirm that the old installation will be replaced and the existing content upgraded. 9. Click **Next** to confirm	

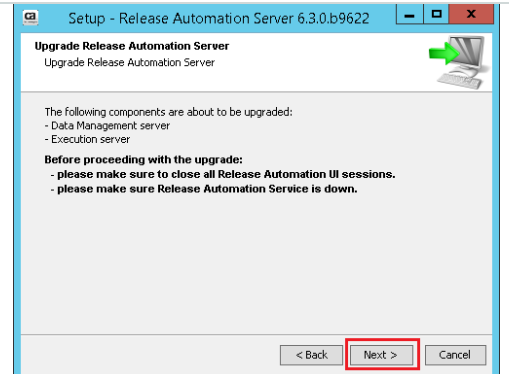|	
10. This should have been done in the Pre-Upgrade • Make sure that there are no active or scheduled jobs 11. Click **Next** to confirm	*Setup - Release Automation Server 6.3.0.b9622* **Upgrade Release Automation Server** Checking for running jobs.. Make sure that there are no running jobs on the Release Automation Server before pressing "Next". Next > Cancel

12. This should have been done in Pre-Upgrade
• Close all RA UI (ROC and ASAP) Sessions
• Stop all RA Services
 	
Note: The list of components may differ based upon what is installed on this local server.
 	
13. Click **Next** to confirm
 	
Note: On a NES only server there will be an error message saying "Unable to stop Update Service". This is because that service does not exist on a NES only server, click OK
	Setup - Release Automation Server 6.3.0.b9622
	Upgrade Release Automation Server
	Upgrade Release Automation Server
	
	The following components are about to be upgraded:
	- Data Management server
	- Execution server
	
	Before proceeding with the upgrade:
	   - please make sure to close all Release Automation UI sessions.
	   - please make sure Release Automation Service is down.
	
	< Back Next > Cancel

14. If you monitor the Upgrade Steps they will be something like this: a. Services will be stopped if they are not already stopped b. Old files and folders will be moved to the upgradeBackup folder c. New files and folders will be copied in to their proper locations d. Services will be started e. Temporary files will be deleted 15. Click **Finish**	*Setup - Release Automation Server 6.3.0.b9622* **Completing the Release Automation Server Setup Wizard** Setup has finished installing Release Automation Server on your computer. The application may be launched by selecting the installed icons. Click Finish to exit Setup. Upgrade has finished. Finish