

Preparations for iMX6 units – CCP VS/VI2

Pre-condition:

The CODESYS RT must have been installed before running this update script, because it sets up (configures) the CODESYS environment in a proper way.

Step1: Update CODESYS application on target device.

This information assumes that you are familiar with working in CODESYS.

It covers the situation when you already have a working development environment and the runtime is already installed on the target unit. It is valid for all our displays (VC, VA and VS).

You have finished the development or update of your application in CODESYS. The application changes have been downloaded and tested on your “development” display.

Step 2: Create Boot application:

1. Now you want to deploy the updated application to your other target display units, so you need to create a Boot Application.
2. Within the CODESYS DevEnv, connect to the display you have in your office.
3. Select ‘Online Login’. Make sure to check the option: ‘Login with download.’ Now the CODESYS project will be built and re-loaded. But the application is stopped.
4. Move the application to ‘Run’ and verify that it is running (green).
5. Create a Boot application with the option: ‘Online Create boot application’
6. The boot application has now been created and loaded to the display.

The next section describes how to create an automated way to update several displays with the same CODESYS application. The files will be saved on an USB-stick and automatically installed when the USB is inserted in the display.

Step 3: Automatic installation from USB.

1. Connect and login to the development display with a terminal (ssh, PuTTY, KiTTY, etc) (Use user ‘root’ and password ‘suseroot’)
2. Move to the ‘/opt’ folder
Here you should find the folder: CoDeSysControl
This folder contains all CODESYS-files from your Development project, if you followed the steps above.
(Note, you may also need to remove any User-specific files, like ‘Persistent Vars’, ‘User IDs’ etc, before compressing in the next step!)

3. Compress the CoDeSys-folder (use any name you want on the tar-file!).
Use the command: `$ tar -cvf CODESYS_App.tar CoDeSysControl/`
(the verbose option, -v, will list all files added to the tar-ball)
4. Copy any supporting files (non-CODESYS) (optional)
Note! If you have a splash-screen (a certain image shown during boot), you may have to copy that to the new display.

More info in this link: <http://support.crosscontrol.com/kb/splash-screen>

5. Move/transfer tar-file from display to your PC Use any tool you like to copy between the display unit and your PC (WinSCP, FileZilla etc) Place it in an empty folder to see the files that will be your contents on the USB!
6. Write the auto script
The file can be created in Linux on the display itself, by using the editor 'nano'.
See link: <https://www.howtoforge.com/linux-nano-command/>
If creating the file on a PC:
Windows and Linux/Unix uses different EOL characters, so make sure you do this correctly!
Be sure to use a text-editor that will give the correct line-endings to the script-file! If this is not correct, the script won't execute!!!
Example when using editor 'Notepad++':
Select this setting: 'Edit → EOL Conversion' and select 'UNIX/OSX Format'
7. Naming of the script
If starting from scratch, give the script the exact name of: `cc-auto.sh`
The Linux OS will look for this file name in the root-directory of the USB-stick, when it is inserted in the USB port. If it finds the script with the name 'cc-auto.sh', it will execute it!

The following contents should be included in the script:

```

1  #!/bin/sh
2  #####
3  #
4  # Note! This script is only valid for iMX6 units:
5  #     - VI2
6  #     - VS
7  #
8
9  # Display installation info logo
10 fbi -T 1 -noverbose /media/usbsdal/logo.png &
11
12 # --- Copy Codesys Application
13 cp /media/usbsdal/MyCodesys.tar /opt
14 cd /opt
15
16 # Remove the old CODESYS version
17 rm -r CoDeSysControl/*
18
19 # --- Install new Codesys Application
20 tar -xvf /opt/MyCodesys.tar
21 sync
22
23 # Add startup logging on CODESYS
24 touch /opt/CoDeSysControl/log_on
25
26 # The startup log can be found in file:
27 #     - /var/log/codesys
28
29 # Turn off autostart of CC Settings screen
30 ln -sf /dev/null /opt/etc/rc5.d/S10cclauncher
31
32 # Give time for copy to complete
33 sleep 10
34
35 # Beep to indicate done. User should remove usb-stick at this point.
36 # We should probably display an image saying so instead.
37 # Something like "rebooting in 5seconds... remove usb stick now!"
38 ccsettingsconsole --buzzer --frequency=1000 --volume=500 --status=enable
39 sleep 2
40 ccsettingsconsole --buzzer --frequency=1000 --volume=500 --status=disable
41
42 # --- Remove the tar-ball
43 rm /opt/MyCodesys.tar
44
45 fbi -T 1 -noverbose /media/usbsdal/VI2_done.png &
46
47 # Reboot your display
48 #reboot

```

(NOTE! You need to change the name of the tar-file [**MyCodesys.tar**] to the name you use!)

8. Move files to USB-stick

Move the files to the root-directory on an USB-stick. Note, it must be on the root-directory for the Linux-system to detect the cc-auto.sh file, when the USB is inserted. There should be three files present in the folder, that you shall move to your USB-stick:

- cc-auto.sh (install script, see above)
- <name of CodesysAppl>.tar (new CODESYS application)
- logo.png
- VI2_done.png

9. Plug the USB into the display you want to update

The update should start automatically and the “install screen” should be visible. After the buzzer sounds and the display shows the “remove USB” screen, remove the USB-stick!

Otherwise the Linux OS will then detect the 'cc-auto.sh' script again on the USB and start executing the installation all over again!

10. Check that the update was correct

Log in to your display and check with 'ps' that the CODESYS RT is running and that your updated CODESYS application has started.

You can also check that everything appears to correct in the folder: /opt/CoDeSysControl

If you have the possibility, try this on one of your own displays, before doing it on the field to be sure that the update is working correctly!

Also be aware of the fact, that if you turn of the autostart of the settings screen (StartupGui), you won't be able to 'see' the IP address of the display! The advice is to set a static IP address on your unit so you will be able to find it and so you can connect to it!