S32 Design Studio
for Power Architecture, Version 1.1
Quick Start Guide

SYSTEM REQUIREMENTS

Recommended Configuration

- PC with 2.6GHz Intel® Pentium® compatible processor or better
- 4 GB of RAM
- 3.5 GB of disk space (when installing full product or updates)
- 1.5 GB in /tmp directory
- USB port for communications with target hardware
- Ethernet port for communications with target hardware (optional)

Operational Minimum Configuration

- PC with 1.8 GHz Intel® Pentium® compatible processor
- 2 GB of RAM
- 3.5 GB of disk space (when installing full product or updates)
- 1.5 GB in /tmp directory
- USB port for communications with target hardware

Host Operating System Support

- Ubuntu 12.04, 14.04
- Debian 8.x
- CentOS 7

To maximize performance, the S32 Design Studio tools should be installed on a computer with the recommended system configuration. While the tools will operate on a computer with the minimum configuration, the limited hardware will restrict its ability to function at desired performance levels.

This Quick Start explains how to download and install the S32 Design Studio for Power Architecture, Version 1.1 from the offline installer on a Linux operating system. Additionally, it describes how to use the S32 Design Studio for Power Architecture, Version 1.1 (S32 Power v1.1) to create, build, and debug a project.

Quick Links

- S32 Design Studio page (overview, downloads) — www.nxp.com/S32DS
- S32 Design Studio community (for publicly shared cases) — community.freescale.com/community/s32/s32ds
- Technical support (for confidential issues) — www.nxp.com/support → **Hardware & Software** link

The Quick Start is organized as the following:

Section 1: Download and install S32 Design Studio for Power Architecture, Version 1.1 with offline installer

Section 2: Creating and building a project

Section 3: Debugging your application

Section 1: Download and install S32 Design Studio for Power Architecture, Version 1.1 with offline installer

This section describes the steps to:

- Download the offline installer, refer step 1.
- Install the offline installer, refer step 2.

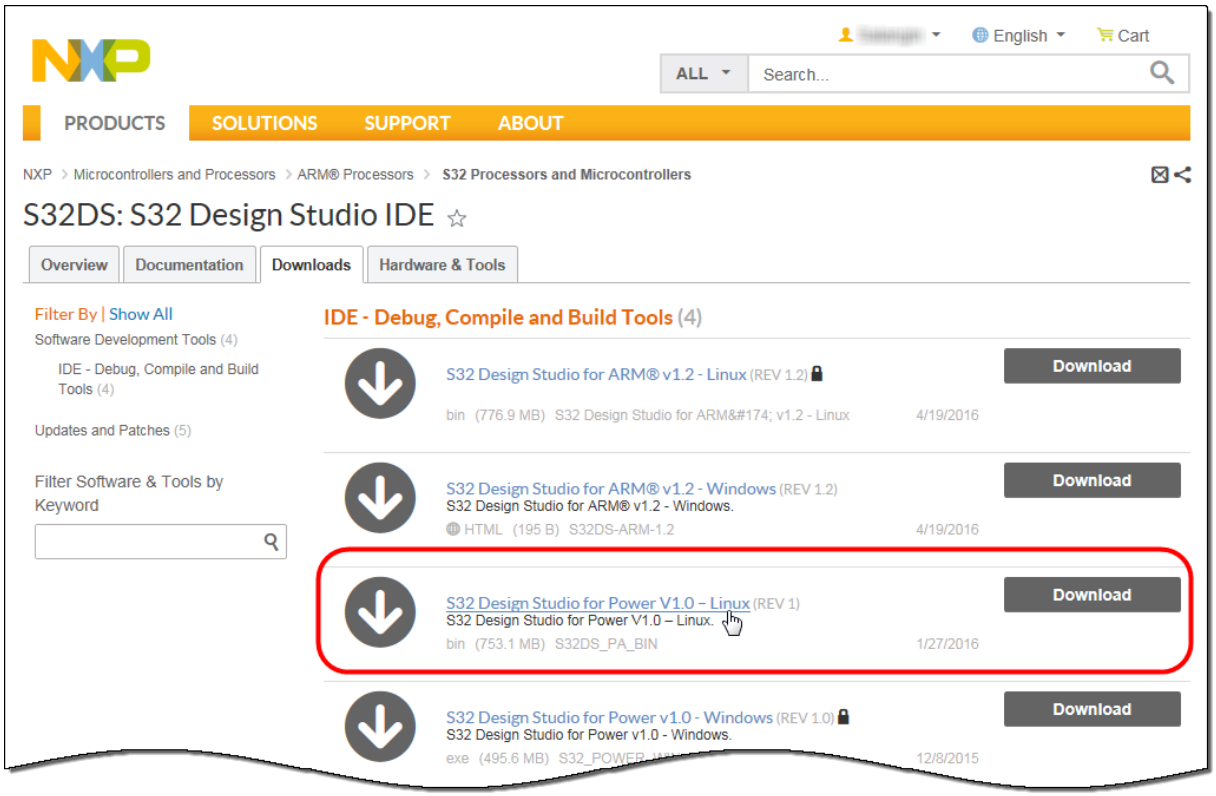
NOTE

This image contains the complete S32 Design Studio for Power Architecture, Version 1.1 tool suite and an installer, which assumes your computer does NOT have internet access. All data needed by the installer will be downloaded now and no other download will be performed.

Step 1. To download the offline installer, perform these steps:

a) Go to www.nxp.com/S32DS . The S32 Design Studio **Overview** page appears.

b) Click the **Downloads** tab:



c) Click the **S32 Design Studio for Power Architecture v1.1 – Linux** hyperlink. You will be directed to the NXP **Sign in** page if you are not logged in already.

d) Enter your e-mail address and password and click the **Sign in** button.

NOTE

If you are not a registered user, click **Register Now** and follow the on-screen instructions.

e) Read the License Agreement and click **I Accept**. A page appears displaying offline download with the **Download** button. In the bottom of page a dialog box appears asking you to save the offline installer. The extension of the file is **bin** for Linux.

f) Specify the location where you want to save the installer.

Step 2. To install S32 Power v1.1 offline installer downloaded from the Web, perform these steps:

NOTE

Prerequisites for S32 Power v1.1 installation:

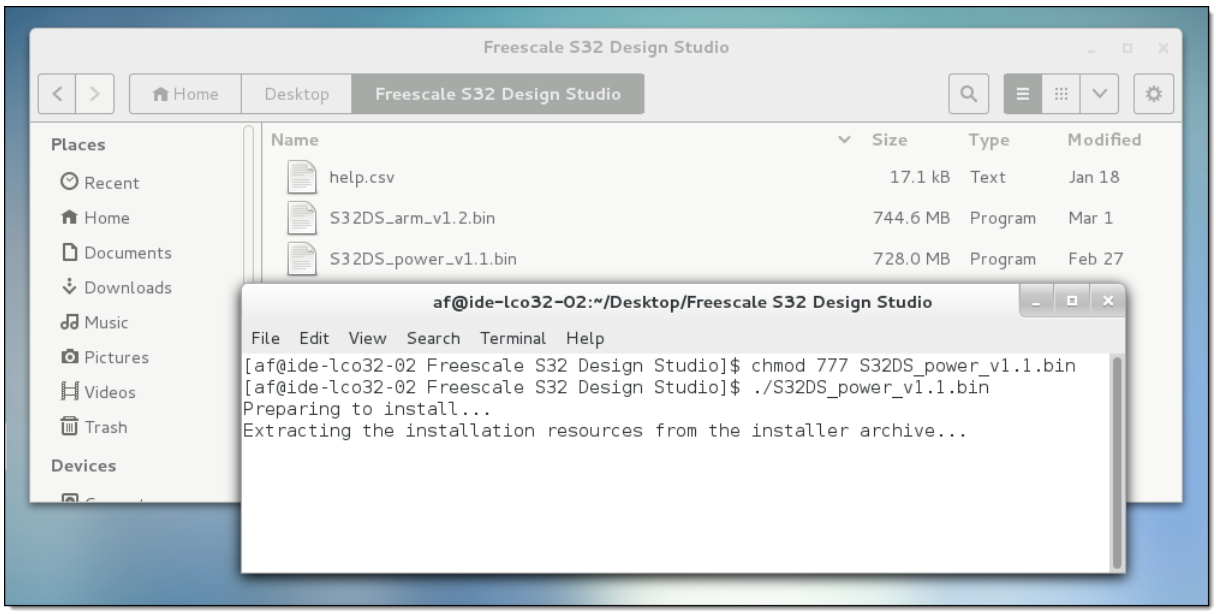
- For installation time the user account should be added to the sudoers group in other words to the **etc/sudoers** file (account should be sudoer but not root)
- "32-bit compatibility libraries" should be installed just in order to run 32-bit toolchains:
  - in Ubuntu: sudo apt-get install lib32z1 lib32ncurses5 lib32bz2-1.0
  - in Debian: sudo apt-get install lib32z1 lib32ncurses5 lib32stdc++6
  - in CentOS: sudo yum install glibc.i686
- The last version of "make" utility should be installed:
  - in Ubuntu: sudo apt-get install make
  - in Debian: sudo apt-get install build-essential
  - in CentOS: sudo yum install make
- The "ncurses-devel.i686" library should be installed just in order to run debug session:
  - in CentOS: sudo yum install ncurses-devel.i686
- Java v1.7+ should be installed

a) When the download finishes on the Linux host computer, start command line.

b) Navigate to the S32 Power v1.1 offline installer **bin** file you have downloaded.

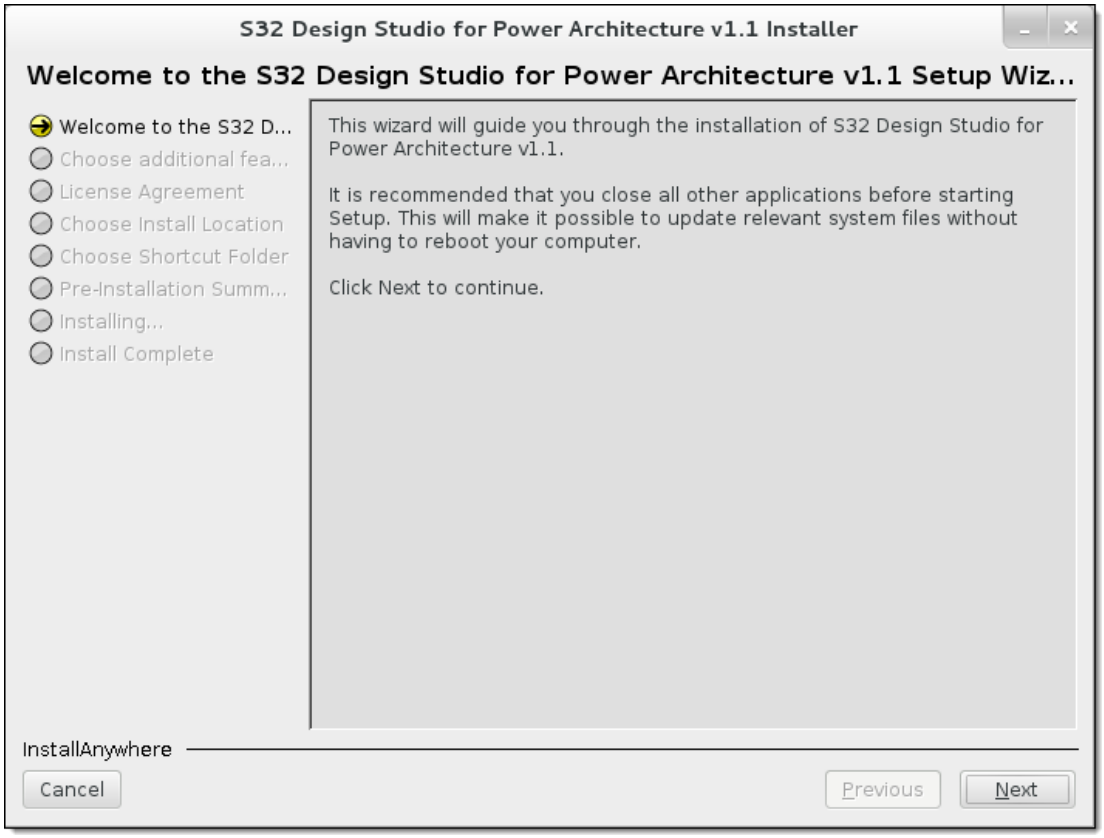
c) Make the installer executable with **chmod 777** <filename>**.bin**.

d) Run **./** <filename>**.bin**:



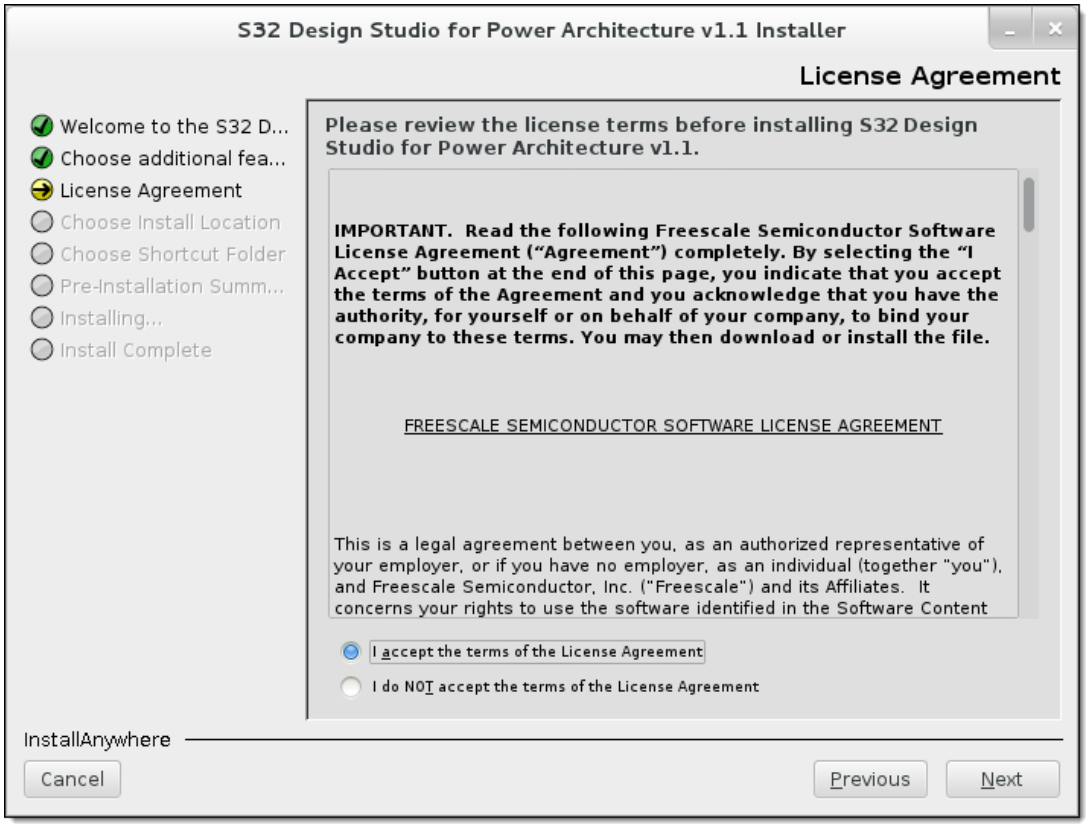
The S32 Power v1.1 installer starts:

e) When the install wizard appears click the **Next** button:

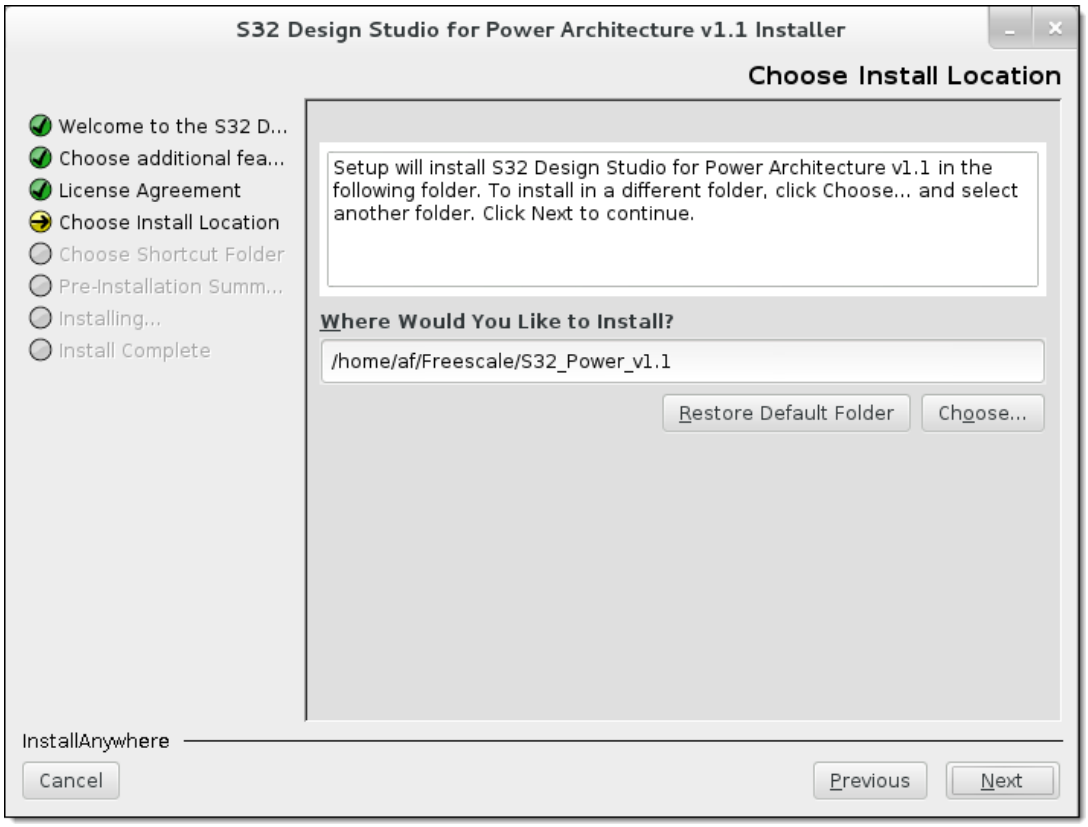


The **License Agreement** page opens. Wait a few seconds until the text of license terms appears.

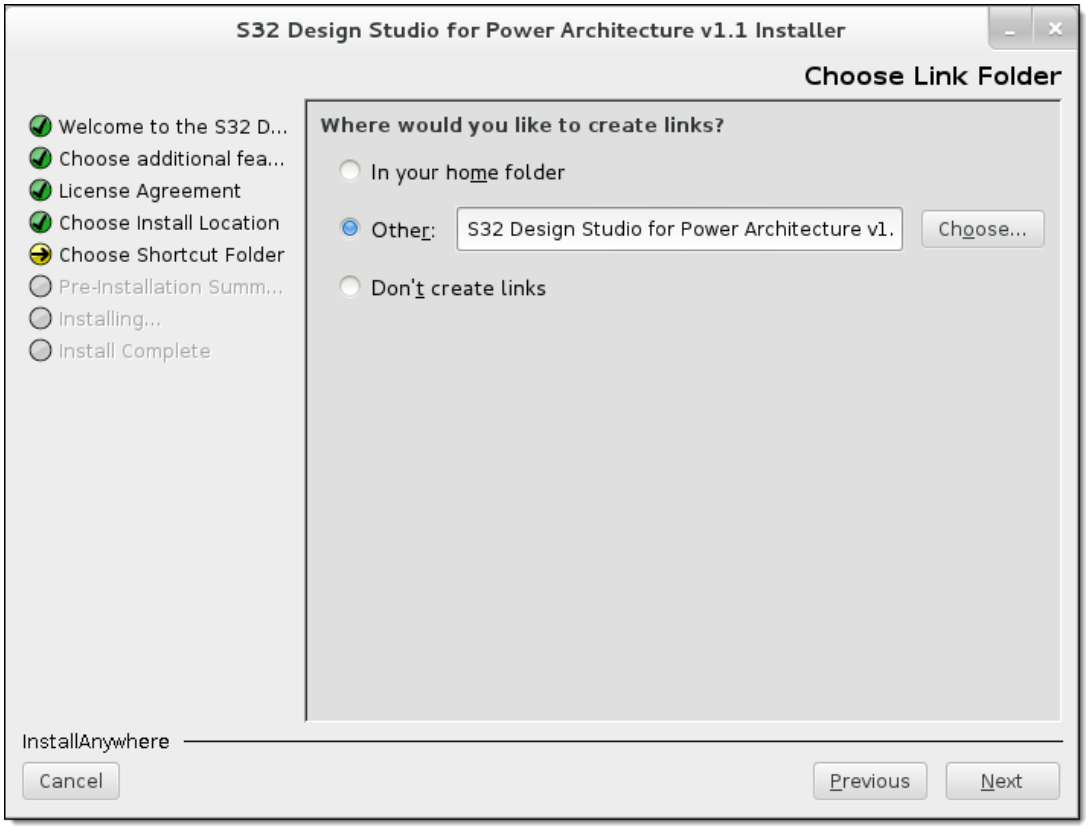
f) Review the text of license terms, scroll down it and select the **I accept the terms…** option. Click **Next**:



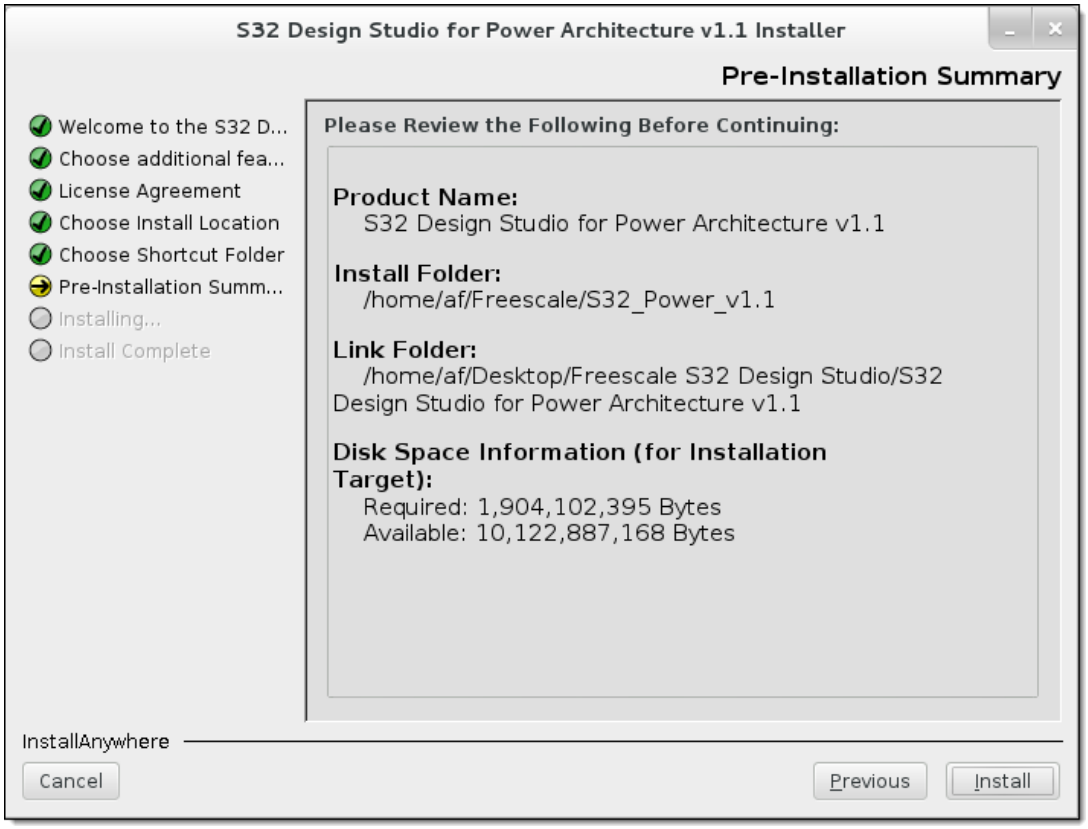
g) Choose install location for S32 Power v1.1. Click **Next**:



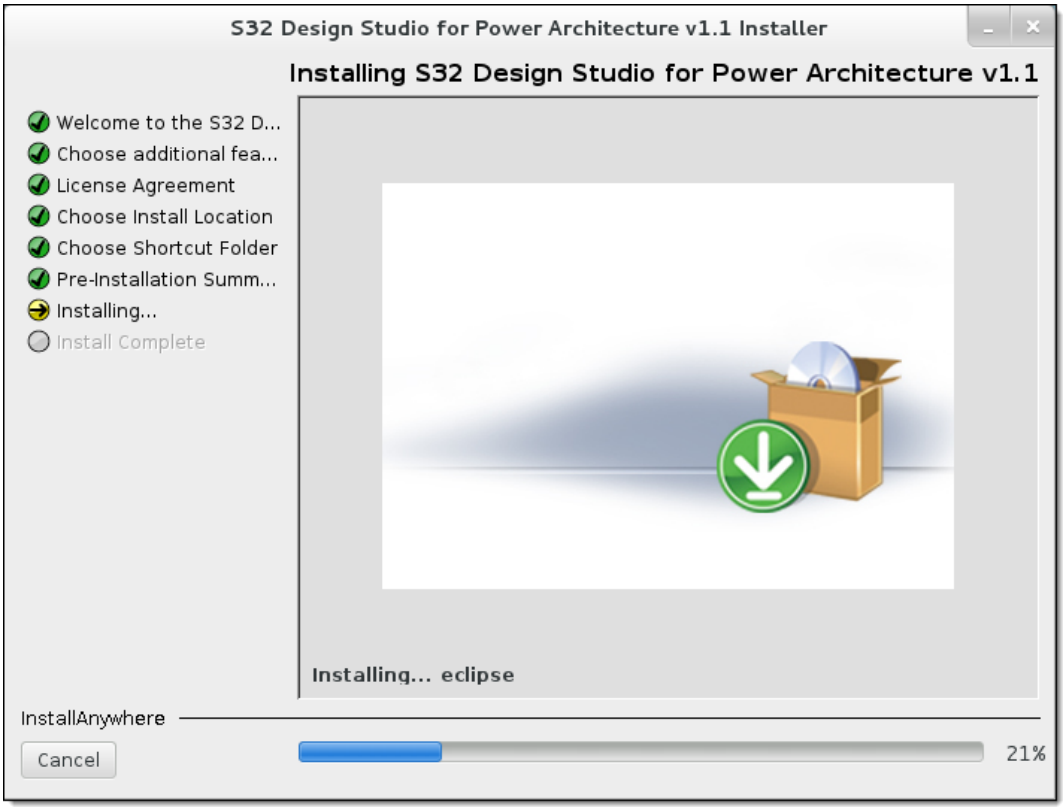
h) Choose folder for S32 Power v1.1 icons. Click **Next**:



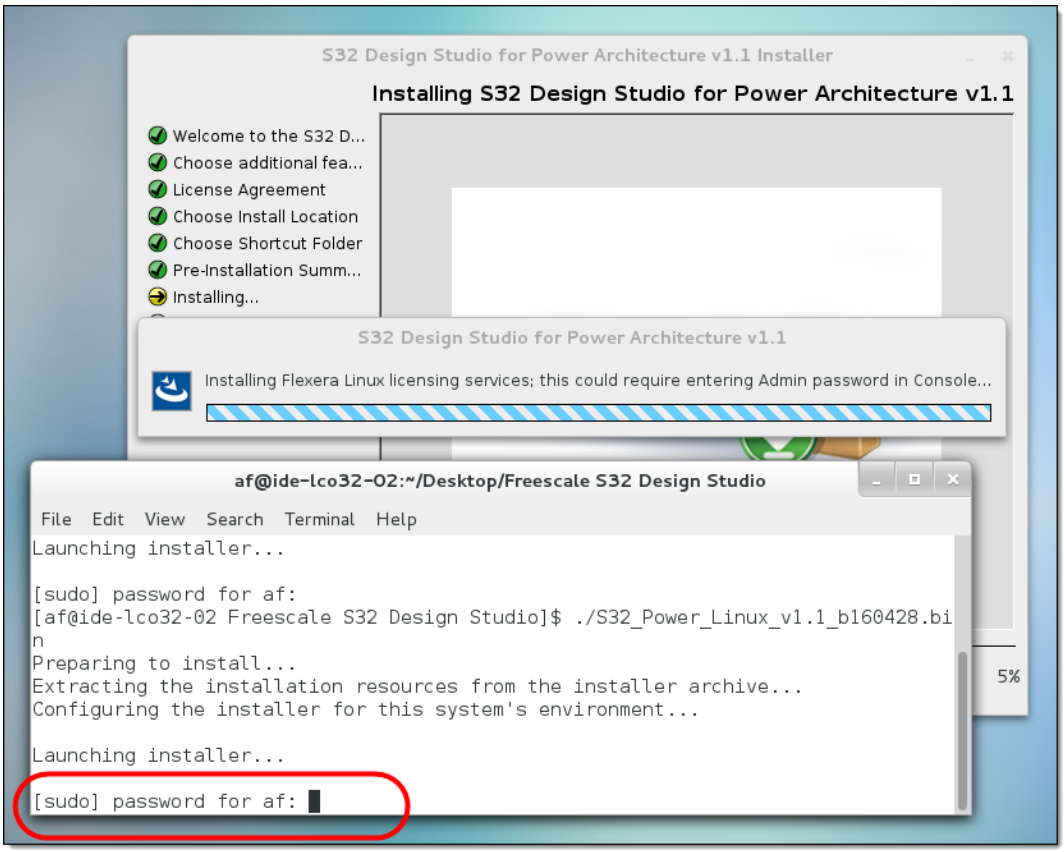
i) Review pre-installation summary before installing:



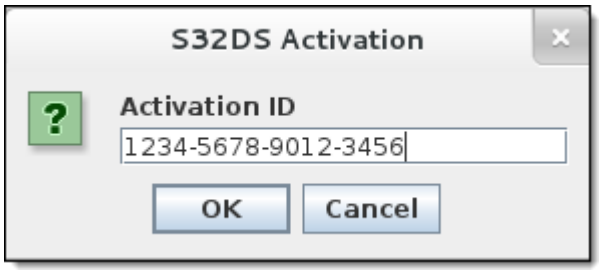
j) Click the **Install** button. The S32 Power v1.1 installation starts:



k) Enter your password in the console (the console window can be displayed under the Installer window):asdasd

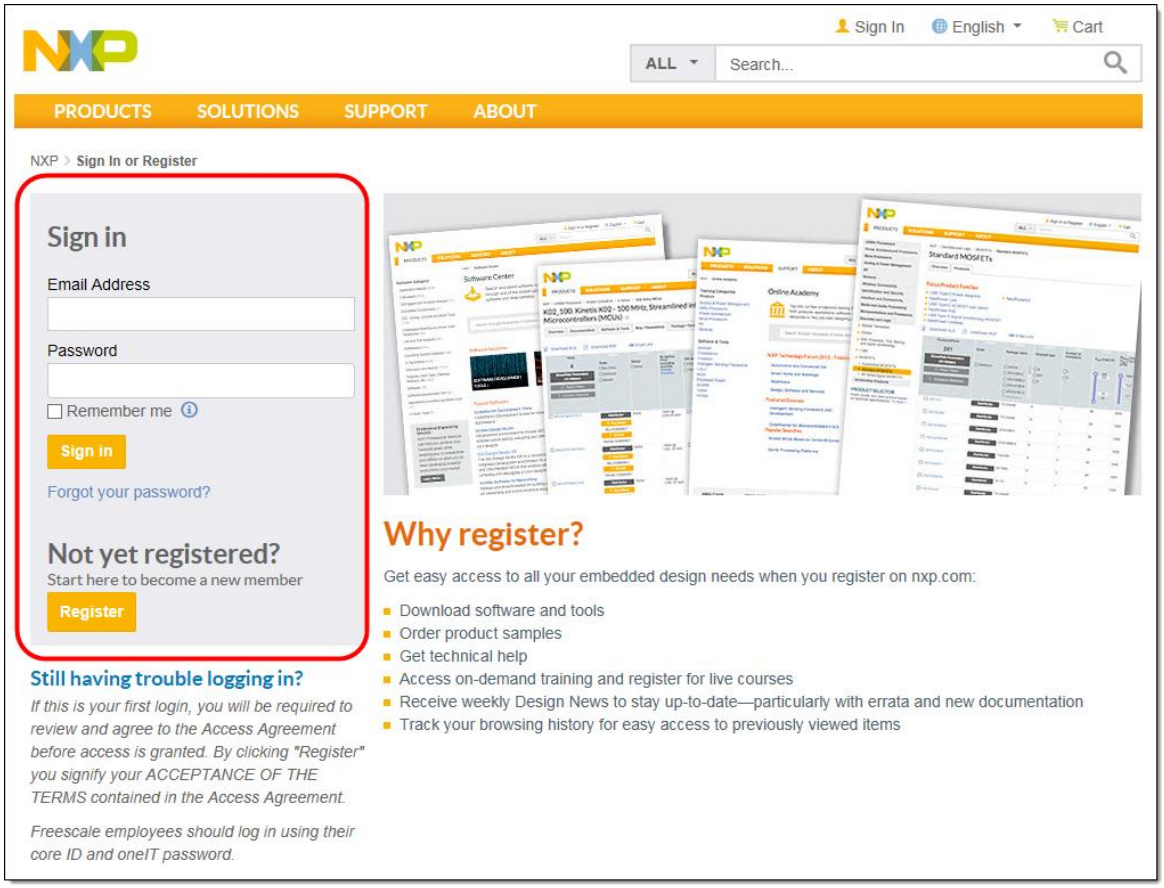


l) The installation continues by searching the S32 Power v1.1 license on your computer. The **S32DS Activation** dialog box opens. Enter **Activation ID** for your S32 Power v1.1 copy and click the **OK** button:

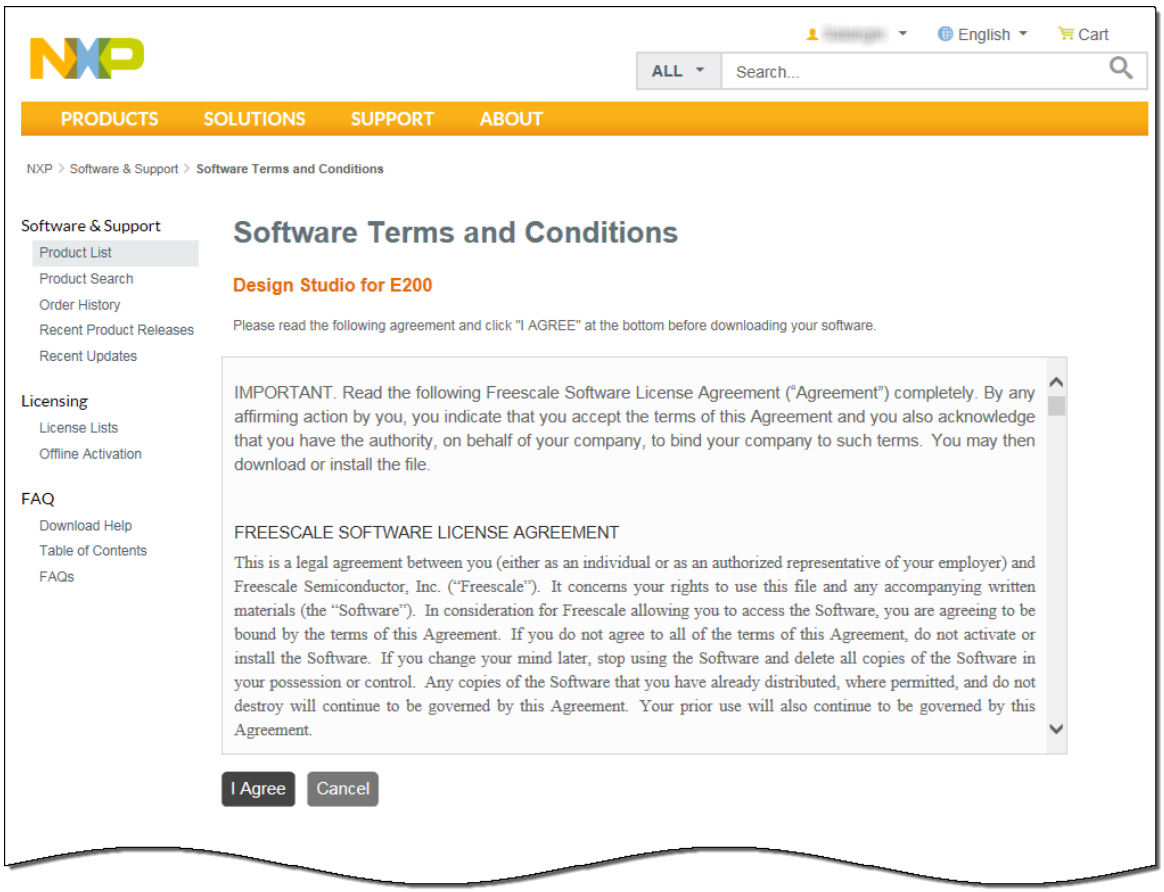


If you click the **Cancel** button then installation rolls back.

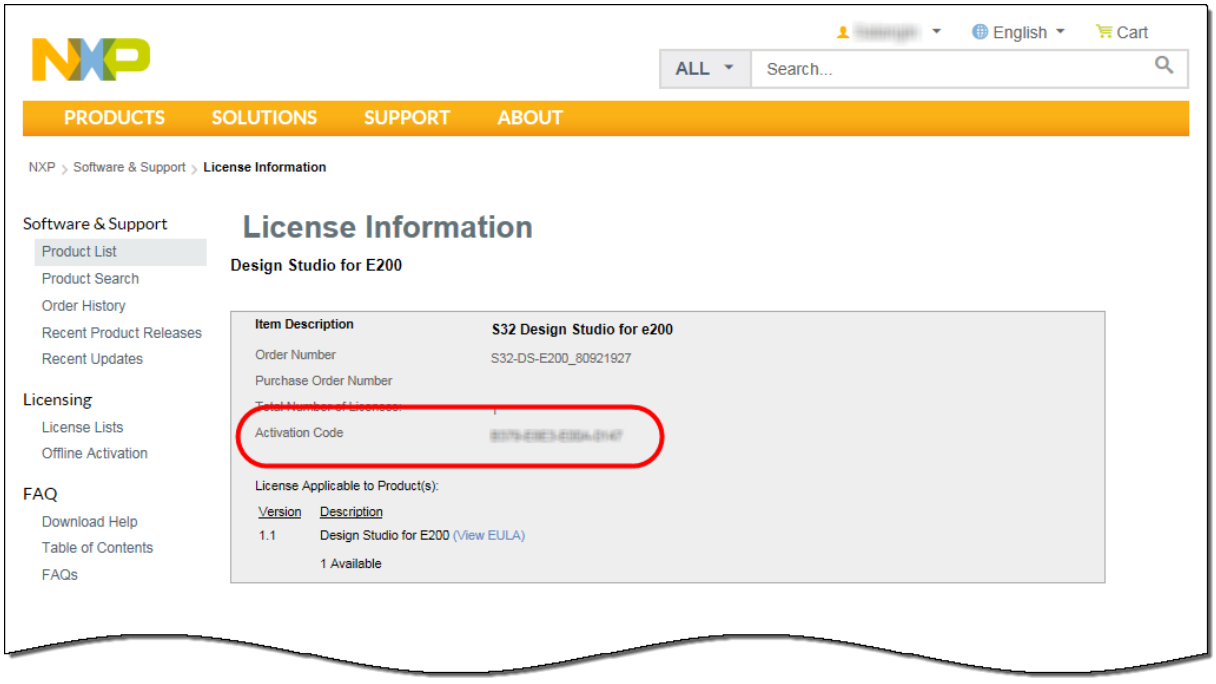
If you don't have Activation ID then sign in or register on the NXP web (**Sign In or Register** page: www.nxp.com/security/login):



Read the text of agreement, scroll down it and select the **I agree** option:

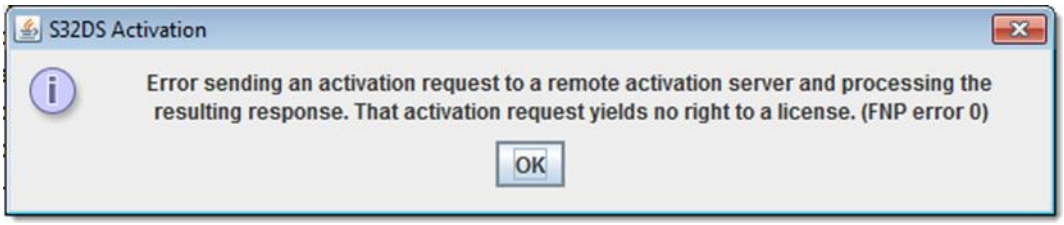


The **License Information** page opens. Copy the **Activation Code** and past it to the **Activation ID** field.



m) Choose S32 Power v1.1 activation type:

- If you choose *online* activation and click the **Online** button then the installer sends an activation request to a remote activation server.
  - If entered Activation ID *is correct* then the S32 Power v1.1 license will be automatically installed with your product and you do not need to register it.
  - If entered Activation ID is *not correct* then the installer shows the error message and the **S32DS Activation** dialog box reopens:

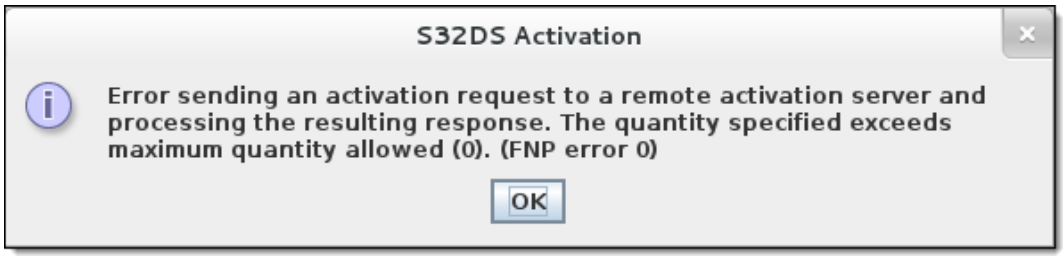


  - If connection to the license server is failed then the installer shows the error message and installation rolls back:

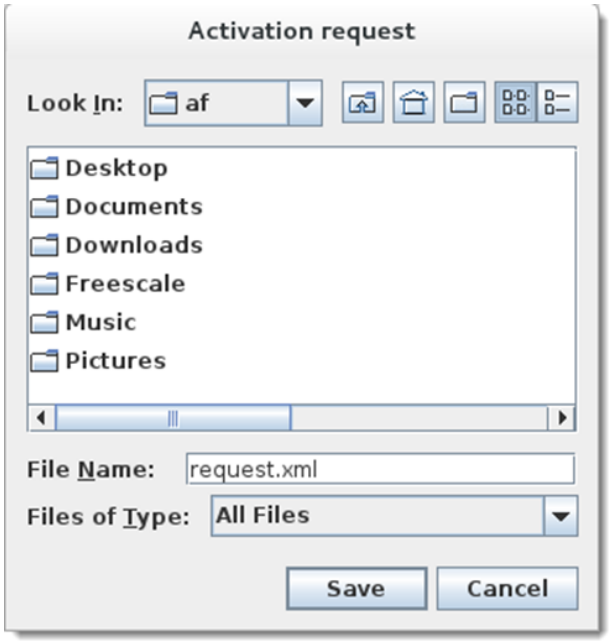
  - If the license server is not working correctly then the installer shows the error message and installation rolls back:

  - If entered Activation ID is used for other machines then the installer shows the error message and installation rolls back:

Error sending an activation request to a remote activation server and processing the resulting response. The quantity specified exceeds maximum quantity allowed (0)



- If you choose *offline* activation and click the **Offline** button then the **Activation request** dialog box appears.

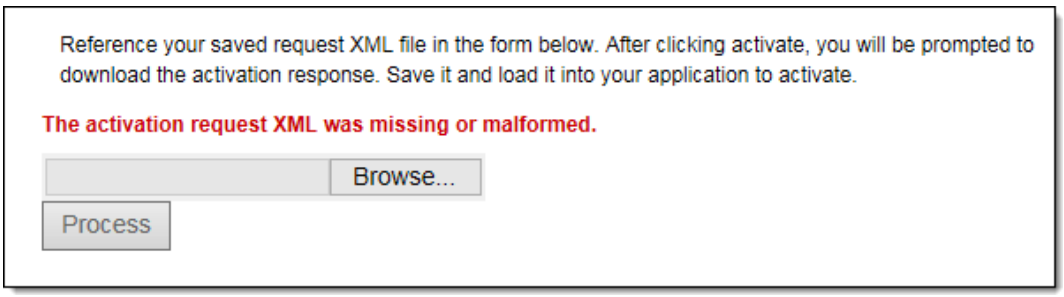


Select required folder or create new folder for storing your activation request XML-file and click the **Save** button (if you click the **Cancel** button then installation rolls back).

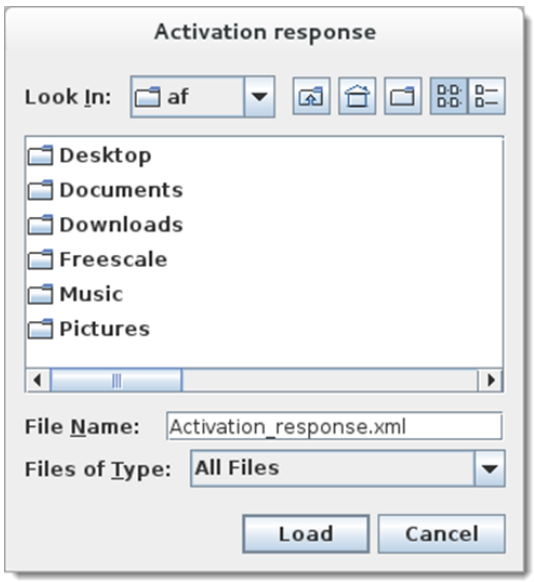
If your user account was not added to the sudoers group then error message is displayed.

The offline activation request should be passed to licensing site to get the activation response:

If the offline activation request XML-file is malformed then the **Offline Activation** page displays the message:



If the offline activation request XML-file is correct then the **Activation response** dialog box will be opened:

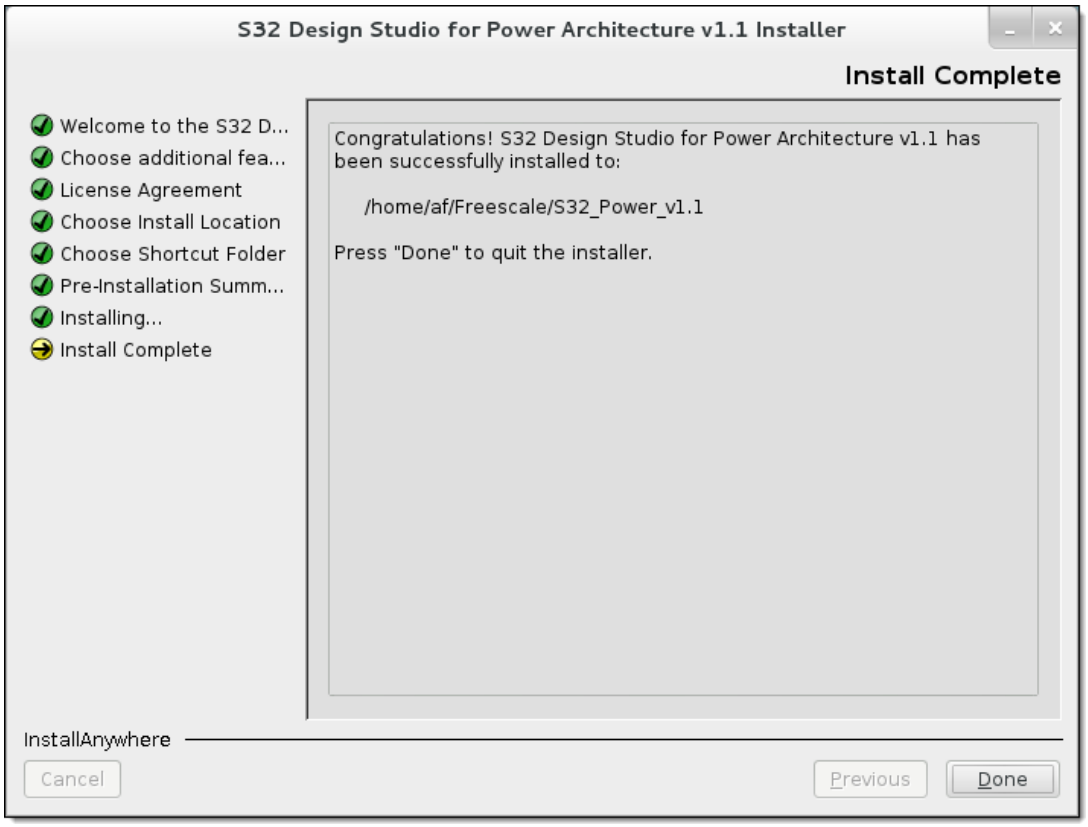


Select received activation response XML-file and click the **Load** button (if you click the **Cancel** button then installation rolls back). If loaded activation response is *not correct* then the installer shows the error message.

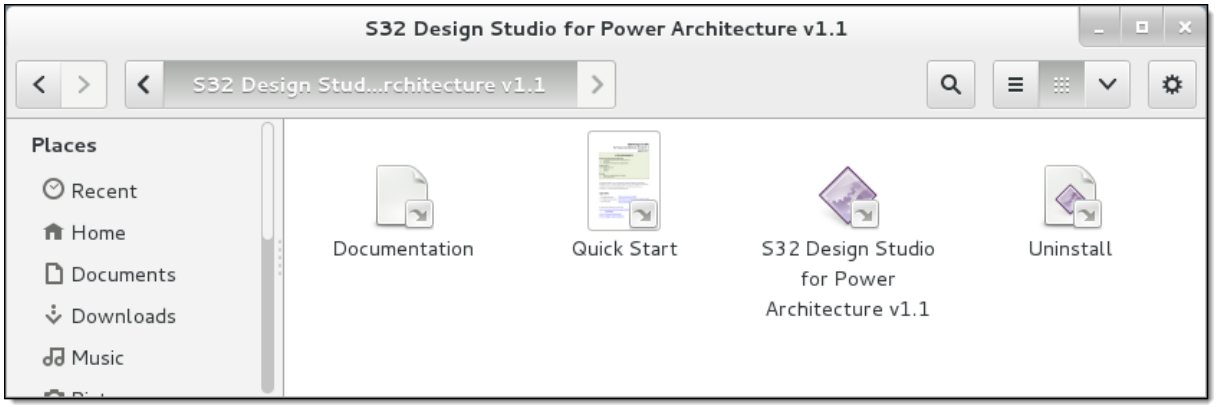
Click the **OK** button and reselect the activation response file.

When accessing the network your web-browser settings will be used. You will have the possibility to configure the proxy if necessary. This license allows you to develop projects within the one-year period.

n) Wait the finish of S32 Power v1.1 installation. When software installation is finished, wizard displays the installation complete page. Click the **Done** button to close the wizard:



o) The installer creates **S32 Design Studio for Power Architecture v1.1** directory:



NOTES

The installer will remain on the computer after installation completes.

New functionality including support for new devices can be added to S32 Power v1.1 with service packs, updates and patches. Service packs add specific support for new devices. Updates and patches correct software defects and add general functionality affecting more than one device family.

Any updates to the installation can be done using **Help → Install New Software…** from the S32 Power v1.1. If your computer is connected to the Internet then all available updates will be displayed.

If your computer does not have Internet access, you can download the archive that contains the service pack, update or patch you need from product page and follow the Service Pack Updater procedure posted on the site.

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Section 2: Creating and building a project

To create and build a project, perform these steps:

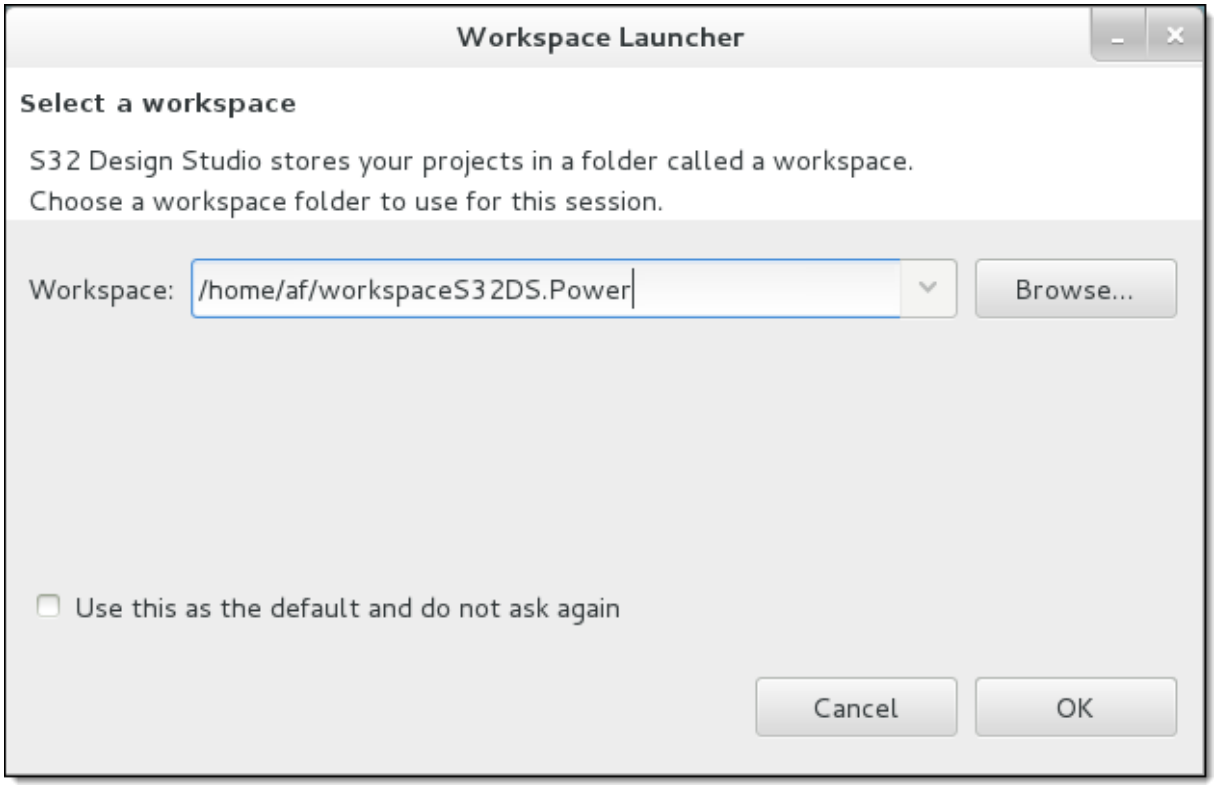
- Start S32 Power v1.1, refer step 1.
- Create new project, refer step 2.

Step 1. Start S32 Power v1.1

a) For Linux, select the **S32 Design Studio for Power Architecture v1.1** directory

b) Click on the **S32 Design Studio for Power Architecture v1.1** icon. The **Workspace Launcher** dialog box appears:

Workspace Launcher dialog box

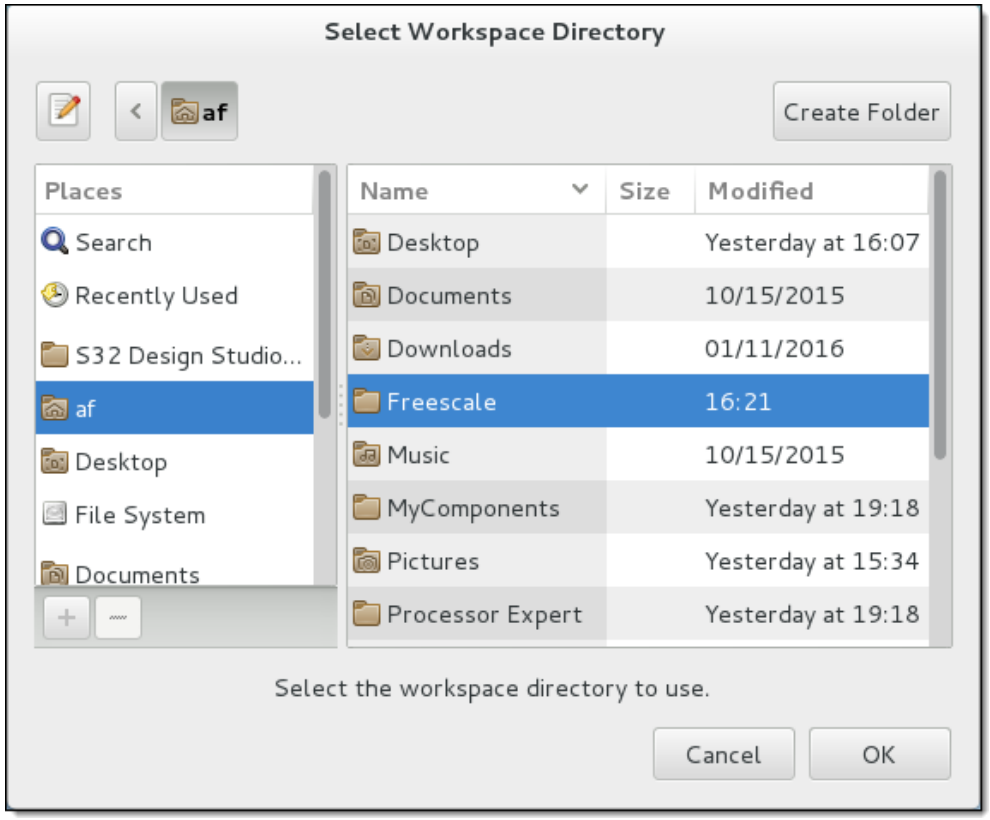


NOTE

If you want to store your projects in the default location, click **OK** and proceed to **step 2**, otherwise follow the steps given below.

c) Click **Browse** — the **Select Workspace Directory** dialog box appears:

Select Workspace Directory dialog box



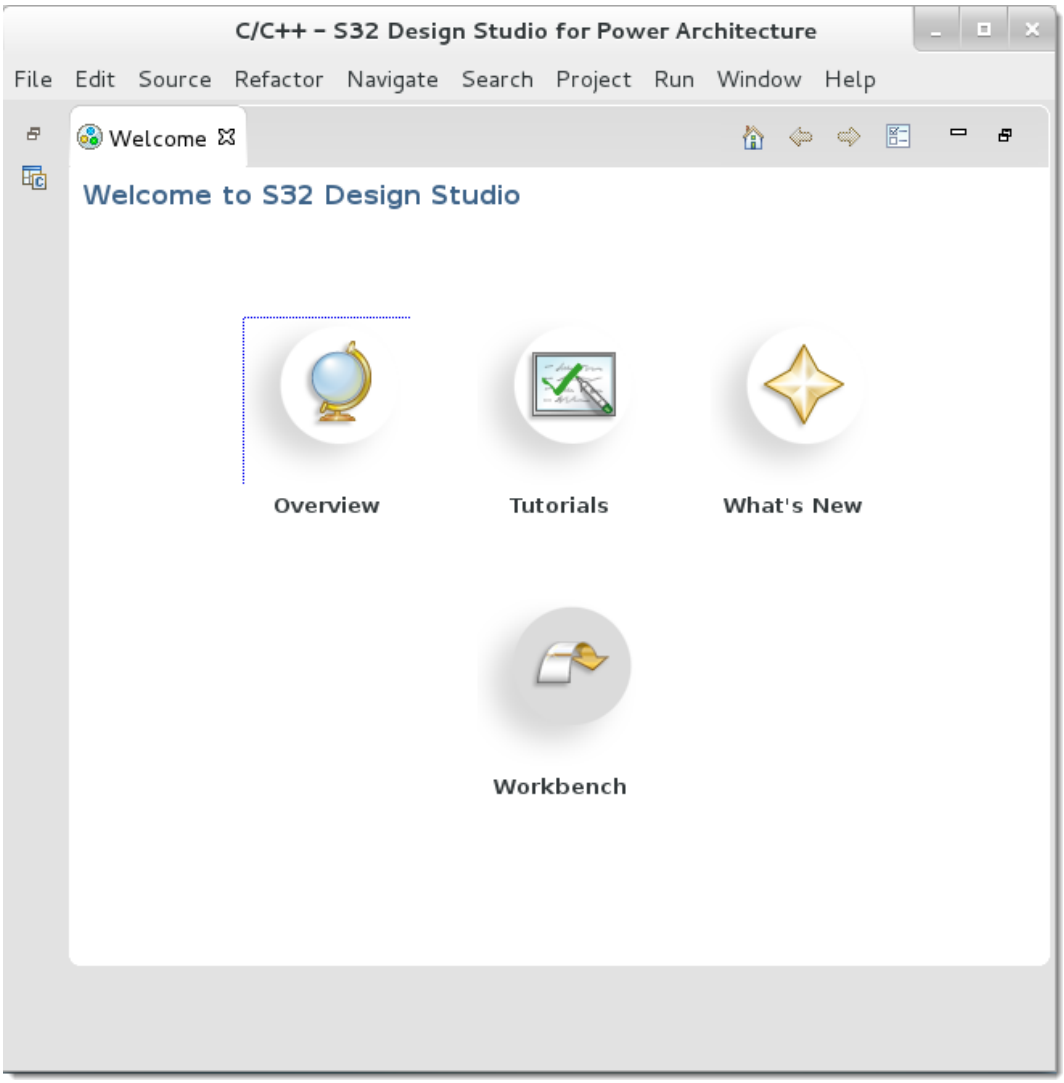
d) Select required folder or click **Create Folder** to create a new folder for storing your projects.

e) Click **OK**. The **Select Workspace Directory** dialog box closes.

NOTE

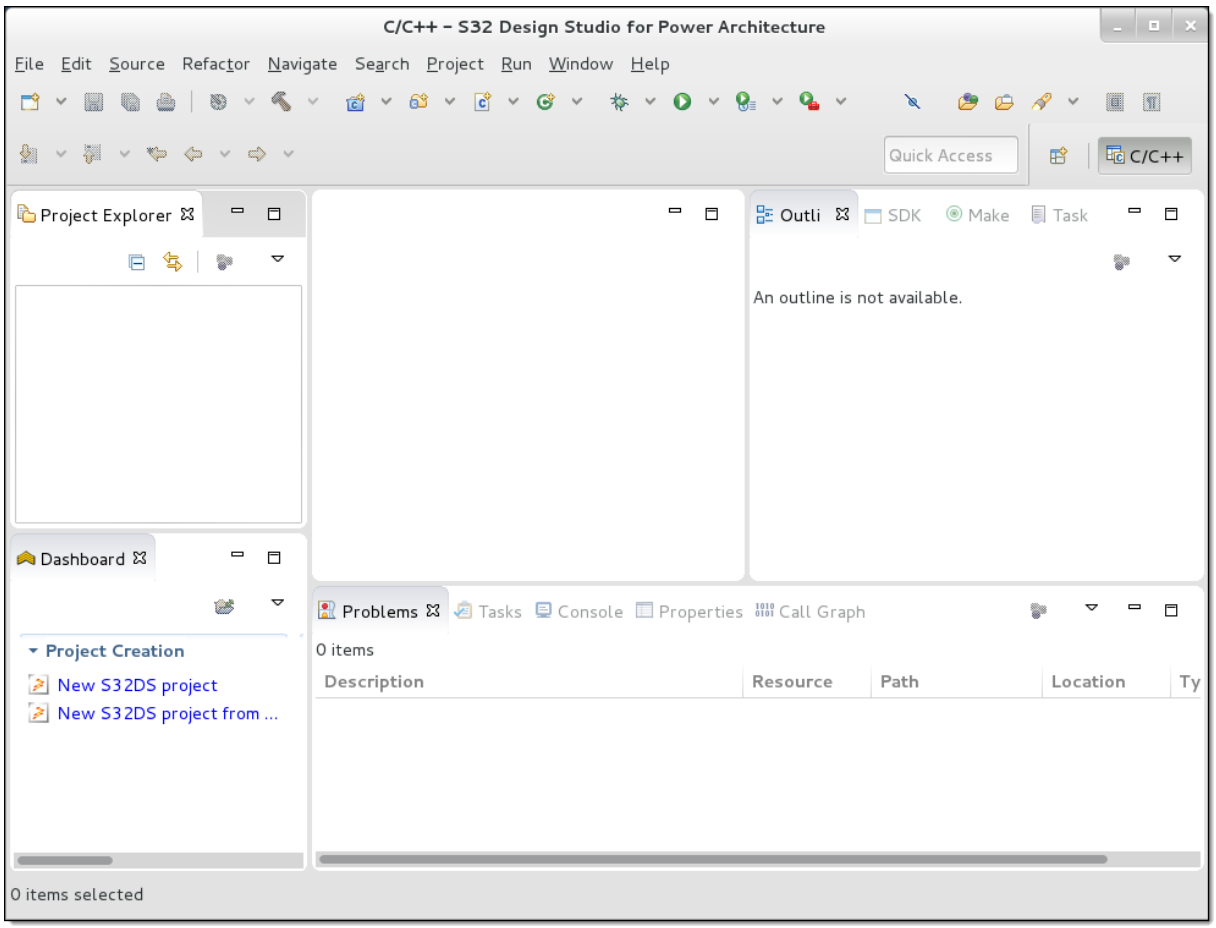
Check the **Use this as the default and do not ask again** checkbox in the **Workspace Launcher** dialog box to set the chosen path as the default location for storing all your projects.

f) Click **OK**. The S32 Power v1.1 launches and the **Welcome to S32 Design Studio** window appears:



g) Click the **Workbench** icon to open Workbench window and close **Welcome** screen. The S32 Power v1.1 Workbench window appears:

Workbench Window



Step 2. Create new multi-core project

a) Select **File** → **New** → **New S32DS Project** from the menu bar. The first page of the **New S32DS Project** wizard appears.

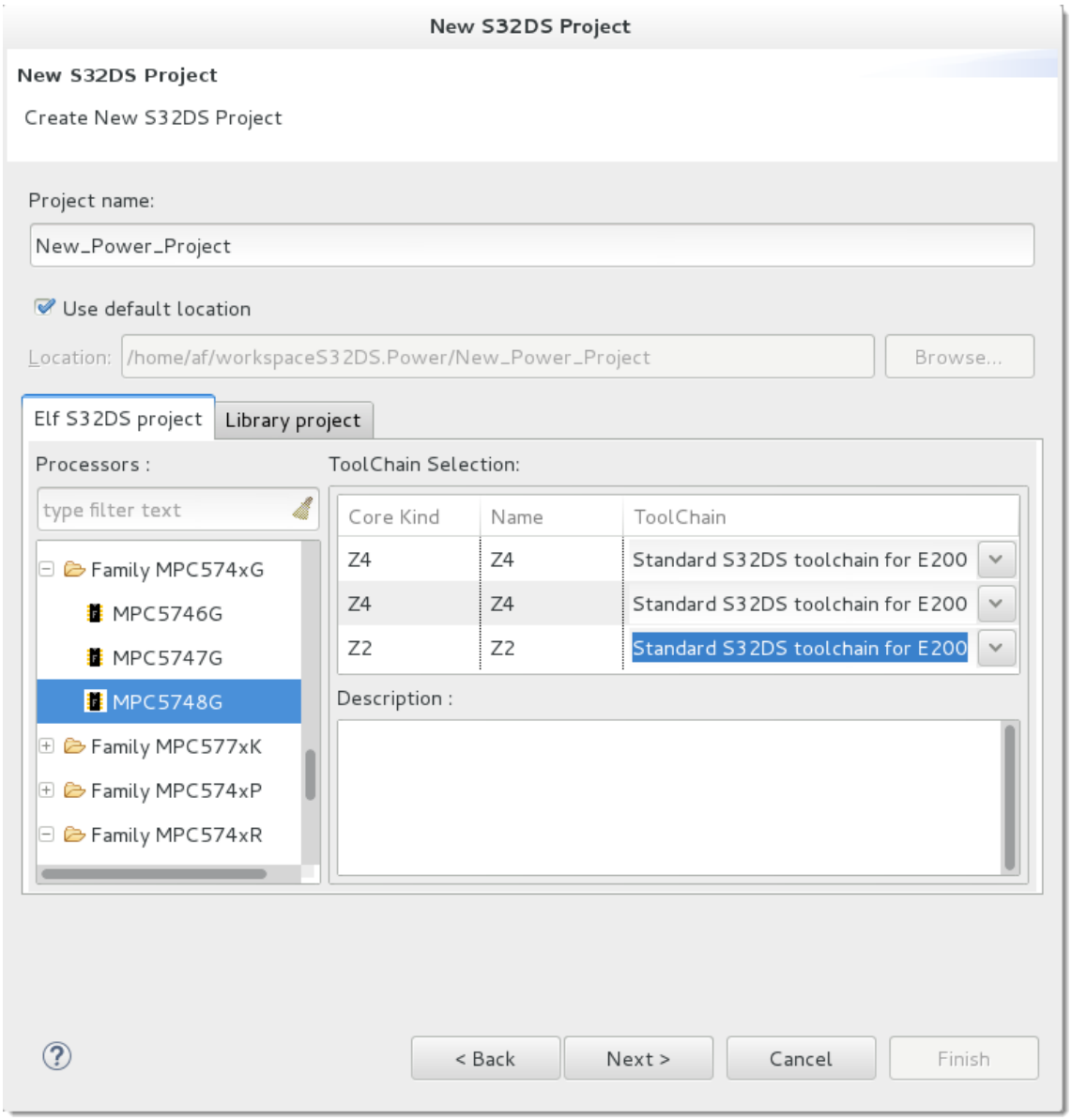
b) Enter **New_Power_Project** in the **Project name** field.

NOTE

The **Location** field shows the default project location. If you wish to change this location, clear the **Use default location** checkbox. Click **Browse** and use the subsequent dialog box to specify a new location. Click **OK**. The **New S32DS Project** page now shows new location.

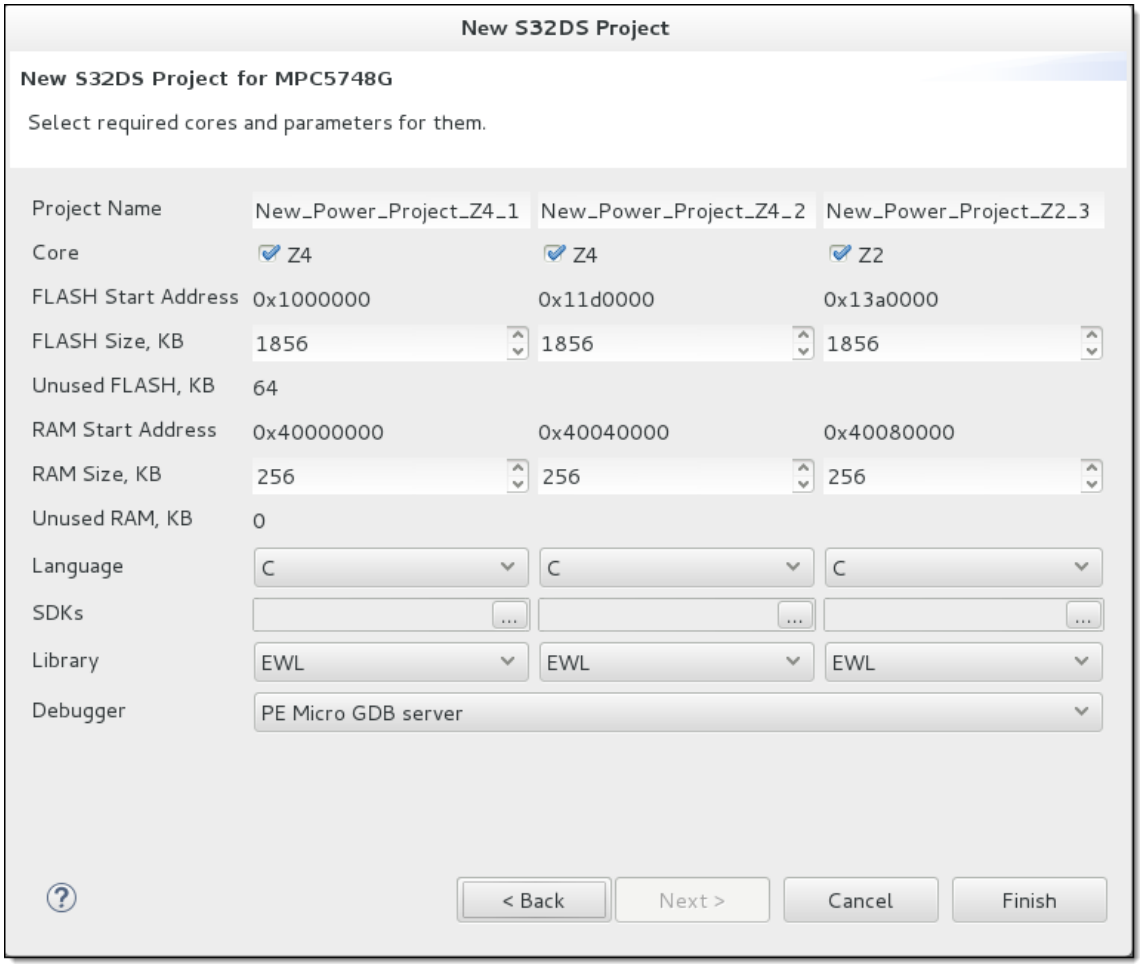
c) Stay on the **Elf S32DS project** tab and expand the **Processors** tree control, find and select the processor:
Family MPC574xG → **MPC5748G**.

New S32DS Project page



d) Click **Next**. The second page of the wizard appears:

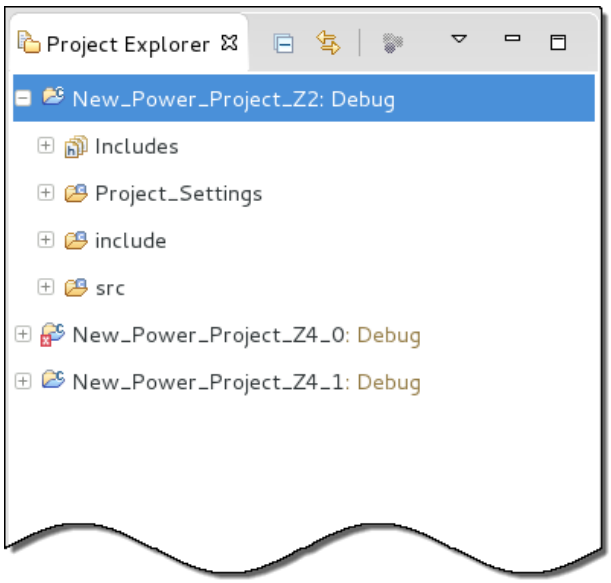
New S32DS Project for MPC5748G page



e) Check the project settings. Click **Finish**. The wizard creates the new projects according to core numbers and your specifications.

f) Select and expand a project in the **Project Explorer** view of the Workbench window:

Project Explorer view



g) The new project is ready for use. Select **Project** → **Build Project** from the S32 Power v1.1 menu bar. The process of project building starts.

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Section 3: Debugging your application

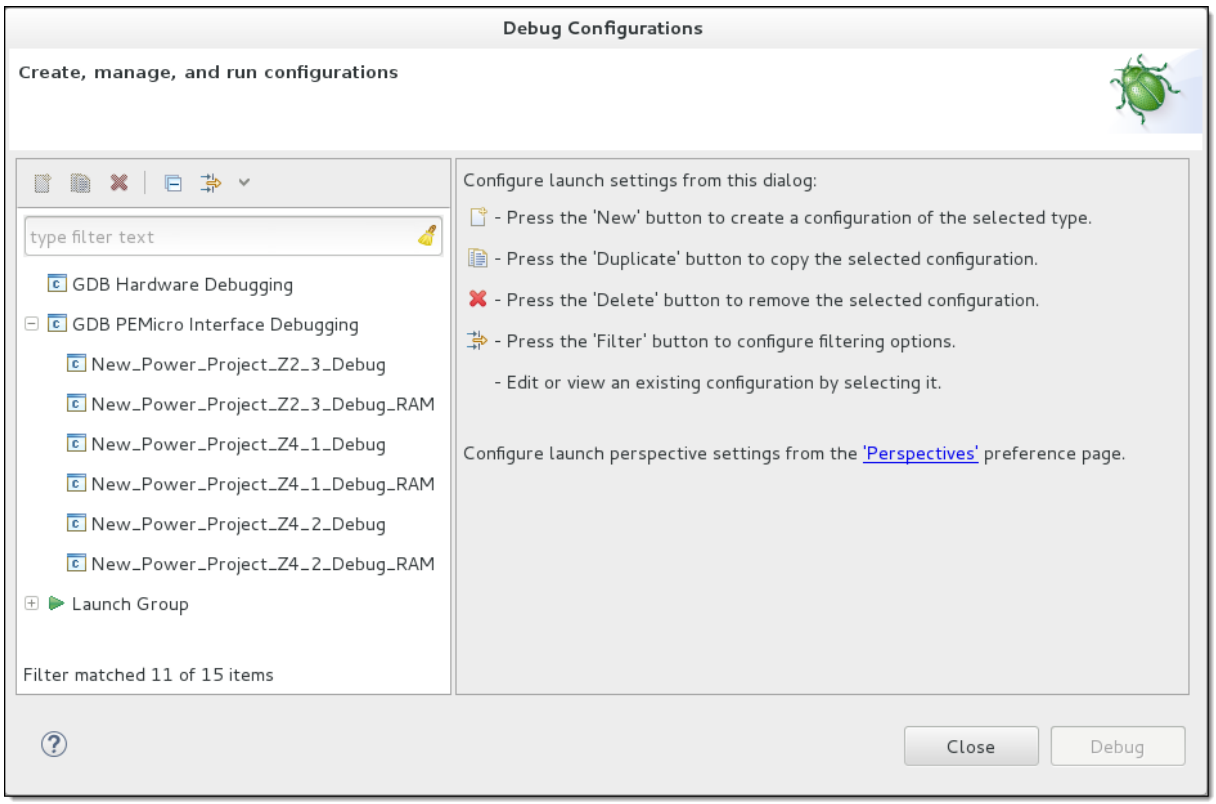
To debug a project, perform the following steps.

1. Set debug configuration for project

   a) Select the project in the **Project Explorer** view.

   b) Select **Run** → **Debug Configurations** from the menu bar (or click an arrow next to the **Debug** picture in the toolbar and select **Debug Configurations…**): The **Debug Configurations** dialog box appears.

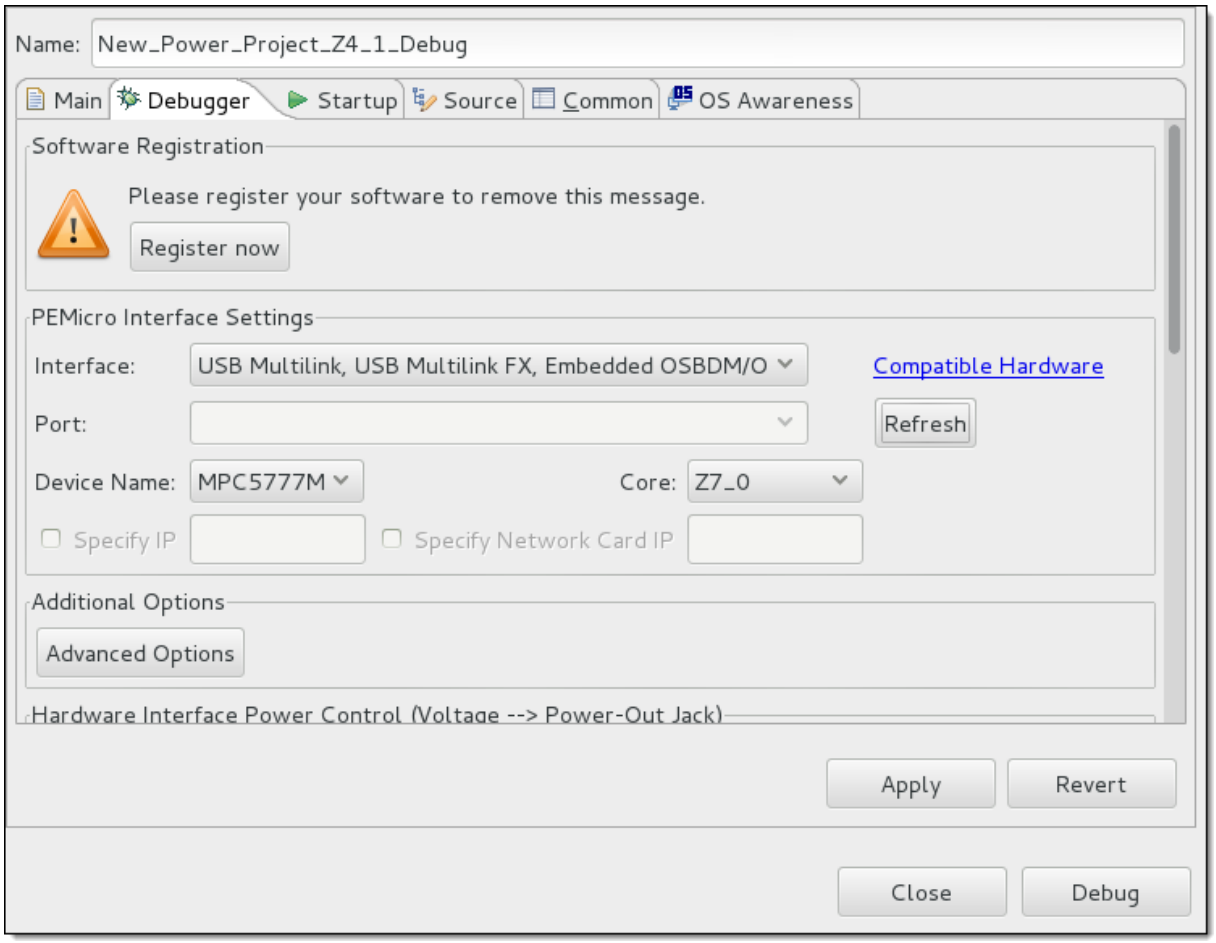
Debug Configurations dialog box



   c) Select required debug configuration. The debug configuration name is composed from the project name, build configuration and run-control interface.

   d) Click the **Debugger** tab — the **Debugger** page opens in the right pane.

Debug Configurations dialog box — Debugger page

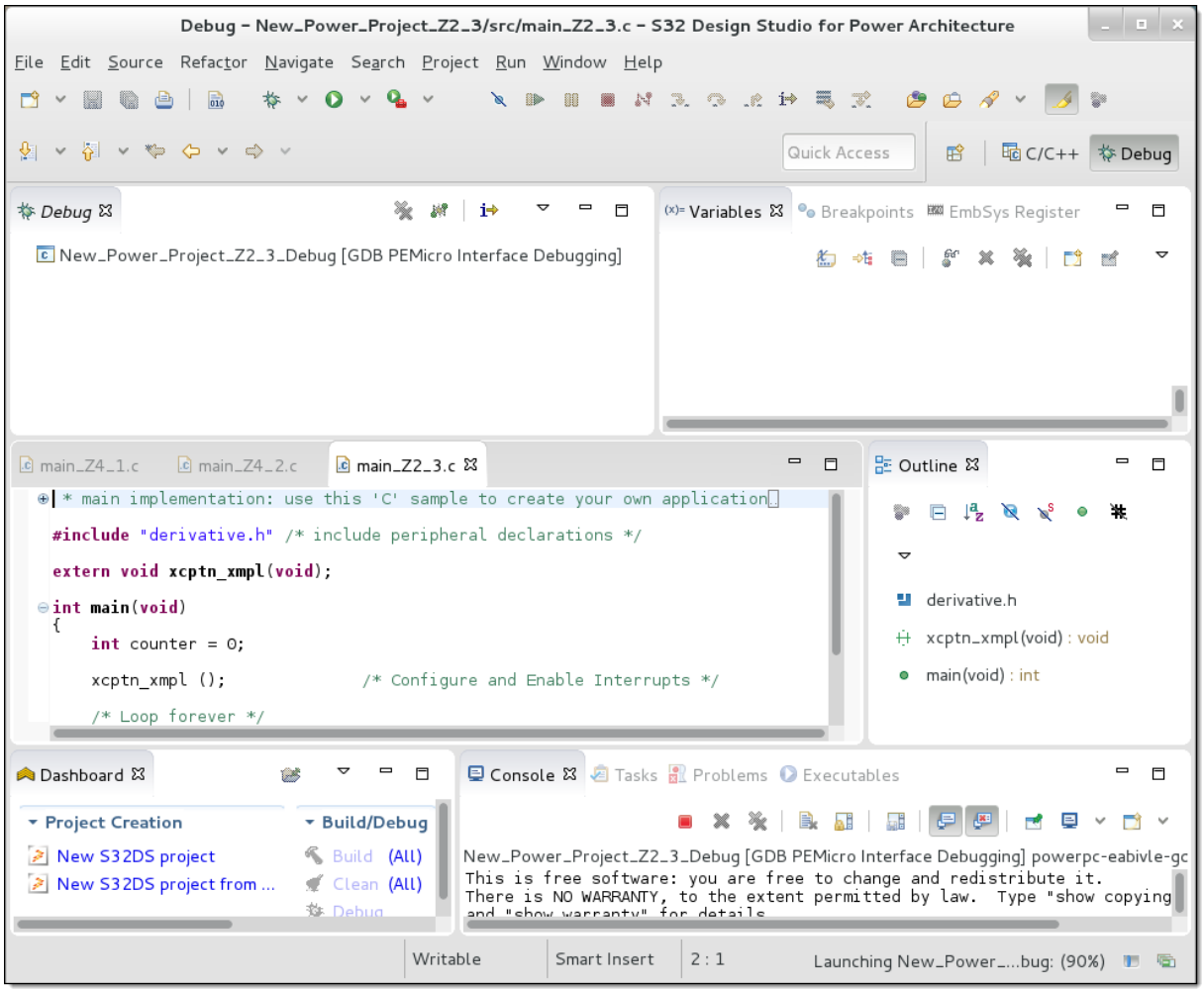


e) Select an interface and make the appropriate changes in the **Debugger** tab.

f) Click **Apply** to save the changes in the settings.

2. Click **Debug** — the debugger downloads program to processor memory and the **Debug** perspective appears. The execution halts at the first statement of **main()** and program counter icon on the marker bar points to the next statement to be executed.

Debug Perspective



3. Set and run to breakpoint

   a) Double-click on the marker bar next to a statement — the breakpoint indicator (blue dot) appears next to the statement.

   b) From the **Debug** view, select **Run** → **Resume** from the menu bar — the debugger executes all statements up to but not including the breakpoint statement.

4. Control program

   a) From the **Debug** view, select **Run** → **Step Over** from the menu bar — the debugger executes breakpoint statement and halts at next statement.

   b) From the **Debug** view, select **Run** → **Resume** from the menu bar — the debugger resumes program execution.

   c) From the **Debug** view, select **Run** → **Terminate** — the debug session ends.

5. Select **File**→ **Exit** from the menu bar to exit the S32 Power v1.1.

Congratulations!
You have created, built, and debugged a project using S32 Power v1.1!

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How to Reach Us:

Home Page:
nxp.com

Web Support:
nxp.com/support

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