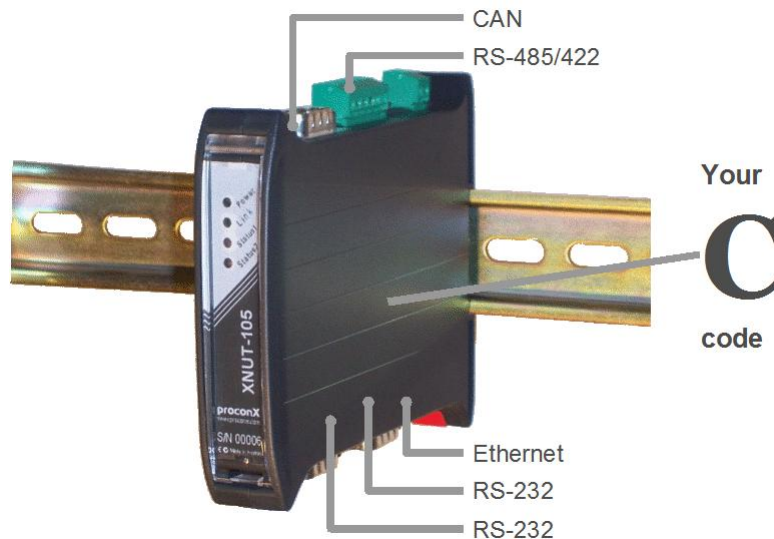


## Configuration and compilation of Nut/OS 4

### Application Note 104

Revision 2, October 2008



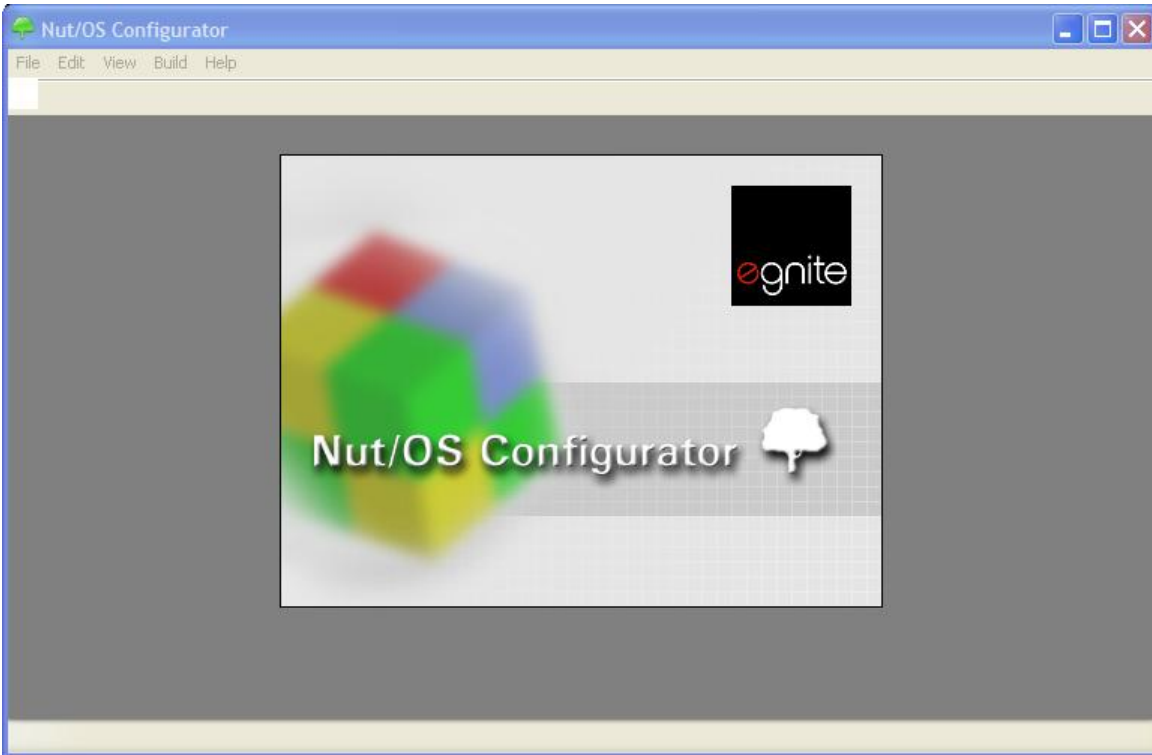
This Application Note describes how to configure and compile the official *Nut/OS* distribution correctly for use with the XNUT-100 and XNUT-105 modules.

#### Prerequisites

- *WinAVR* AVR-GCC compiler tool chain installed (Refer to *Application Note 102*)
- *Nut/OS* 4.1.9 or higher installed (Refer to *Application Note 103*)
- If you intend to use the *AVR JTAGICE mkII* programming adapter you need in addition *AVRStudio 4* installed. (Refer to *Application Note 105*)

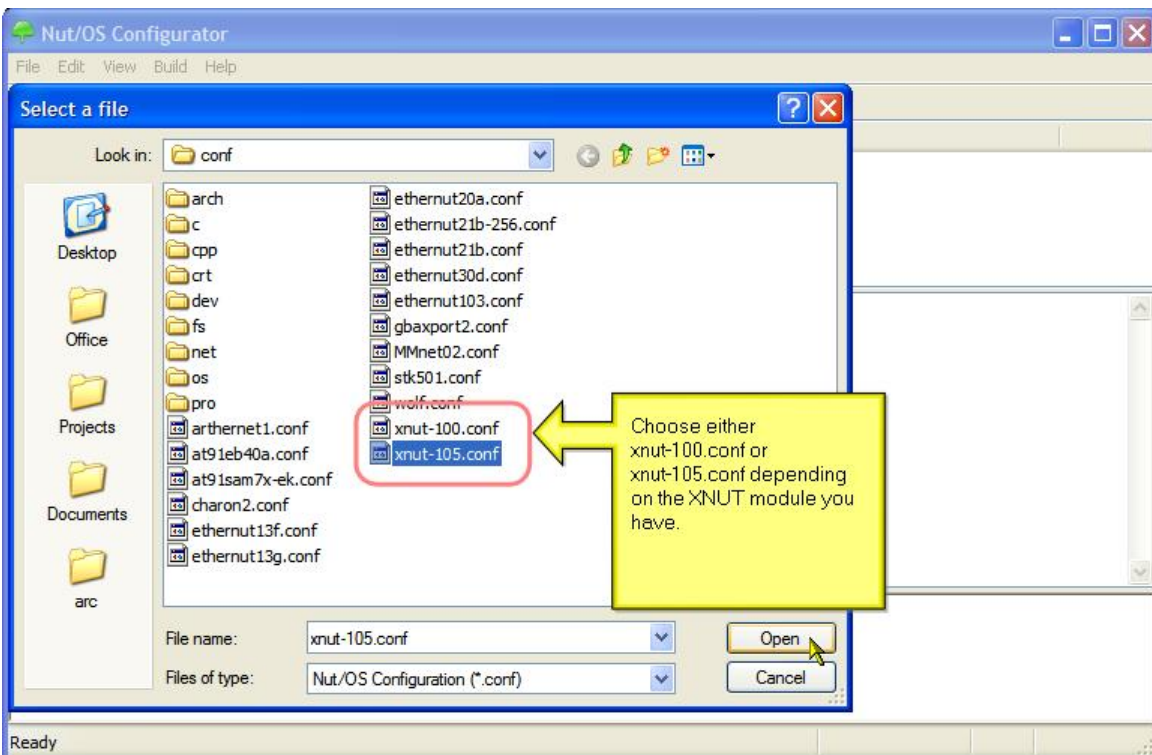
## Configuraton step by step using the Nut/OS Configurator

Launch the *Nut/OS* Configurator from the Windows Start menu:



Start Nut/OS Configurator

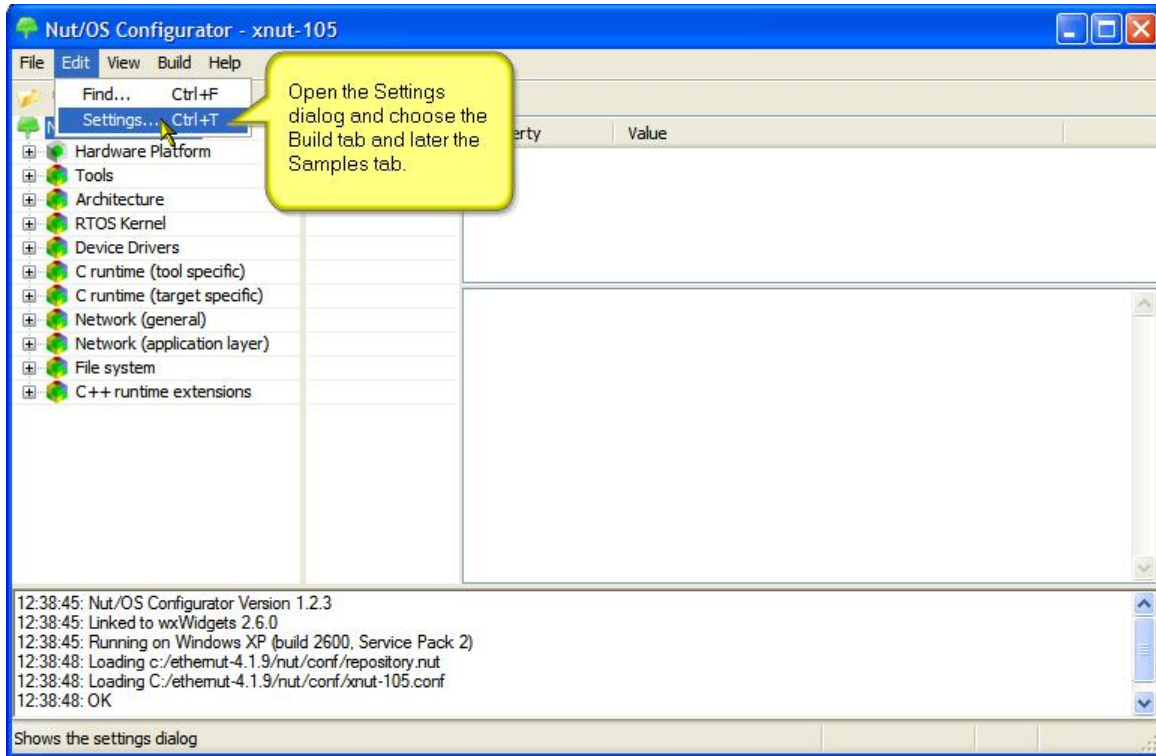
Nut/OS is supplied with ready-to-use configuration files for the XNUT modules. Select either the `xnut-100.conf` or `xnut-105.conf` configuration file from the list:



Choose a Configuration File

After loading the configuration file, the *Nut/OS* Configurator presents a component tree in the main window. It is possible to change almost every aspect of the modular *Nut/OS* operating system by clicking on the branches of the component tree. We recommend to keep the default OS settings and proceed with the customization of the build directories.

Open the **Settings...** dialog from the main menu:



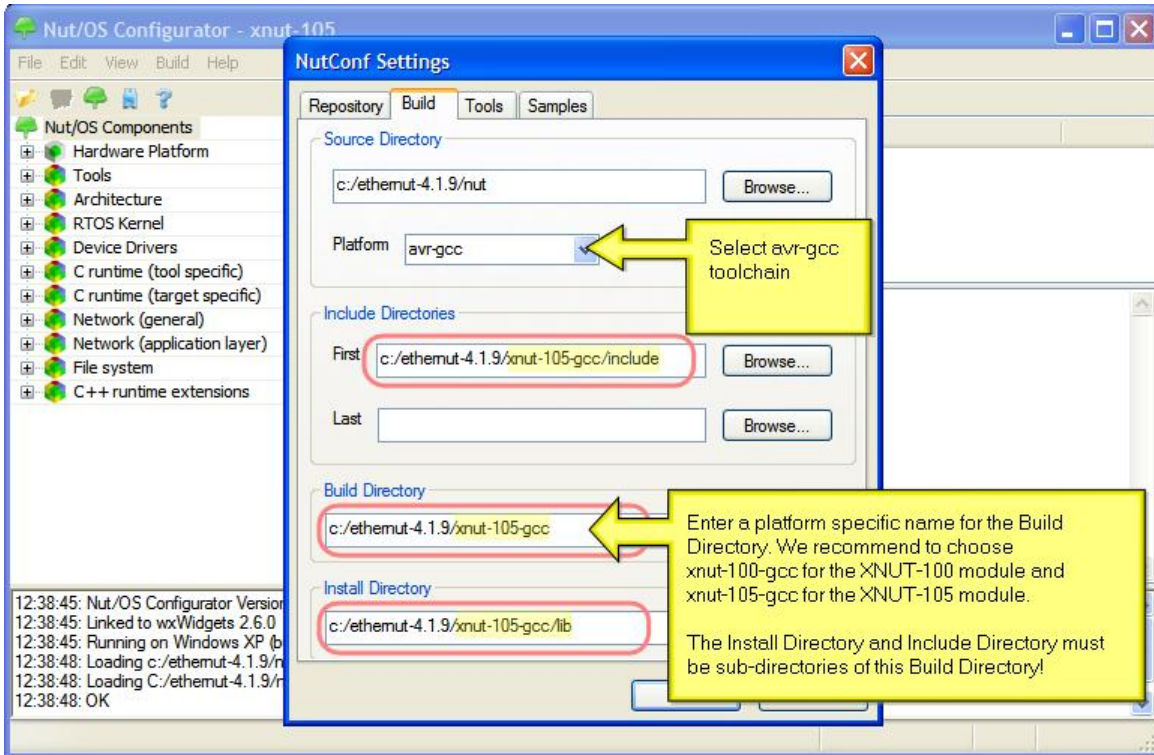
Open Settings Dialog

Choose the **avr-gcc** compiler and customize the Include Directories, Build Directory and Install Directory as shown. It is good practice to have distinguishing directories names which reflect the type of hardware and type of compiler you are using. This way you avoid mixing incompatible files during the build process.

It is recommended to keep the naming convention shown below.

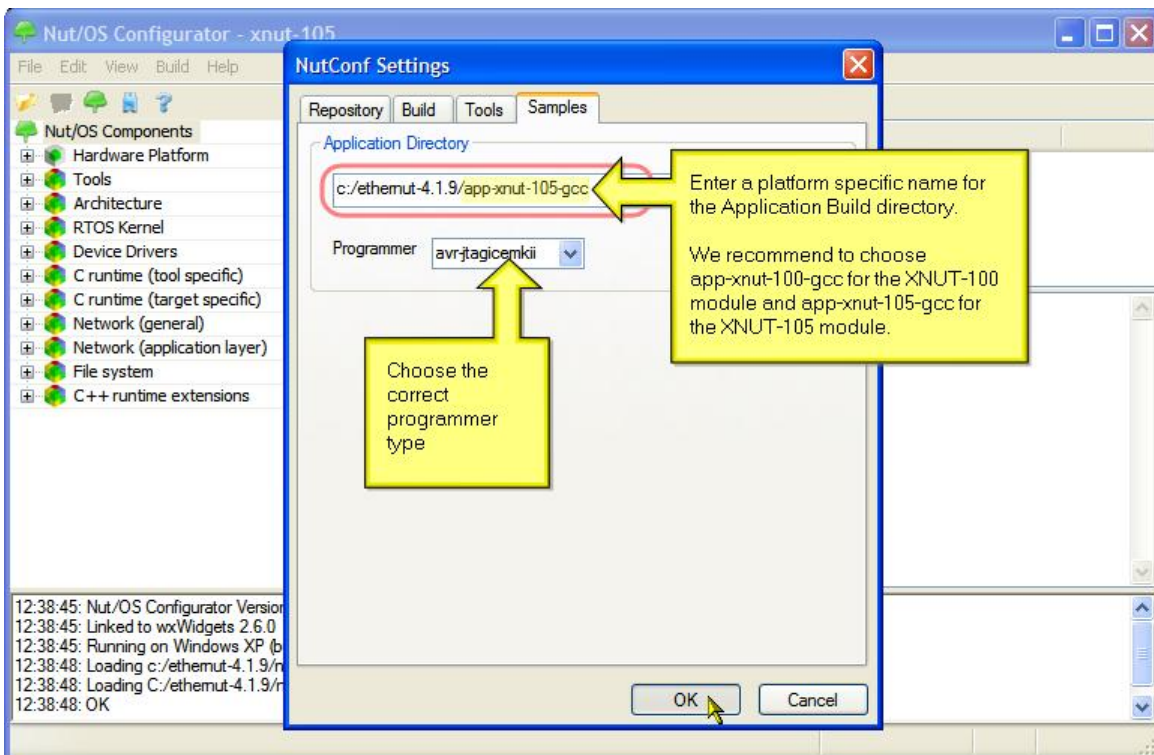


- Use absolute paths. Relative paths are at the time of writing not supported.
- Always use a forward slash to separate directory paths, not Windows style backslashes.
- The folder names must not contain space characters.
- The Install Directory must be located within the Build Directory.



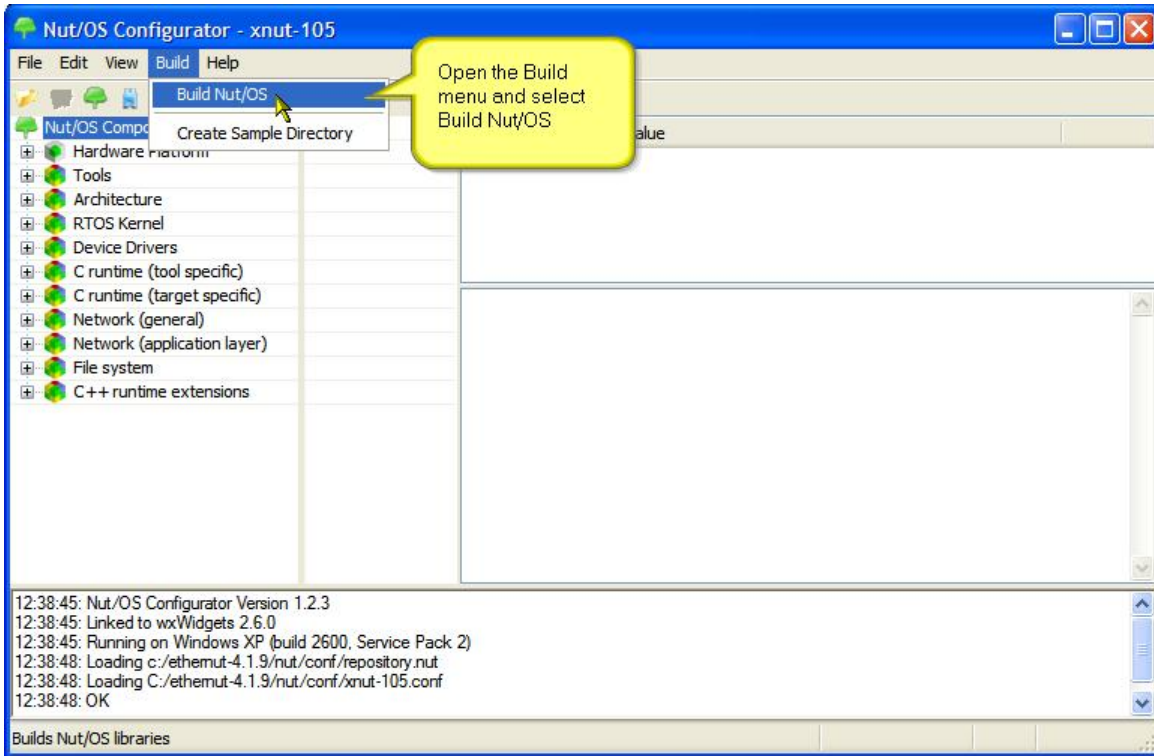
Modify Build Settings

To create the example projects, further settings need to be made as shown below. Click **OK** to confirm all settings.



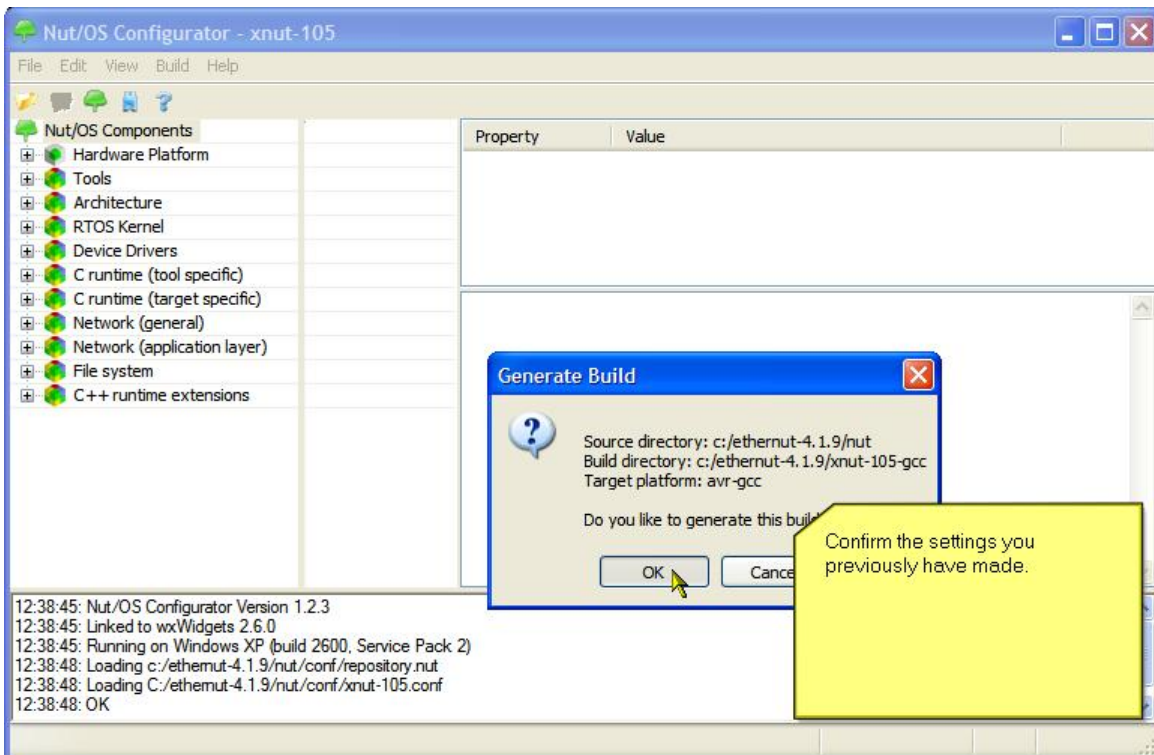
Modify Samples Settings

Start the build by clicking on the **Build Nut/OS** command in the Build menu.



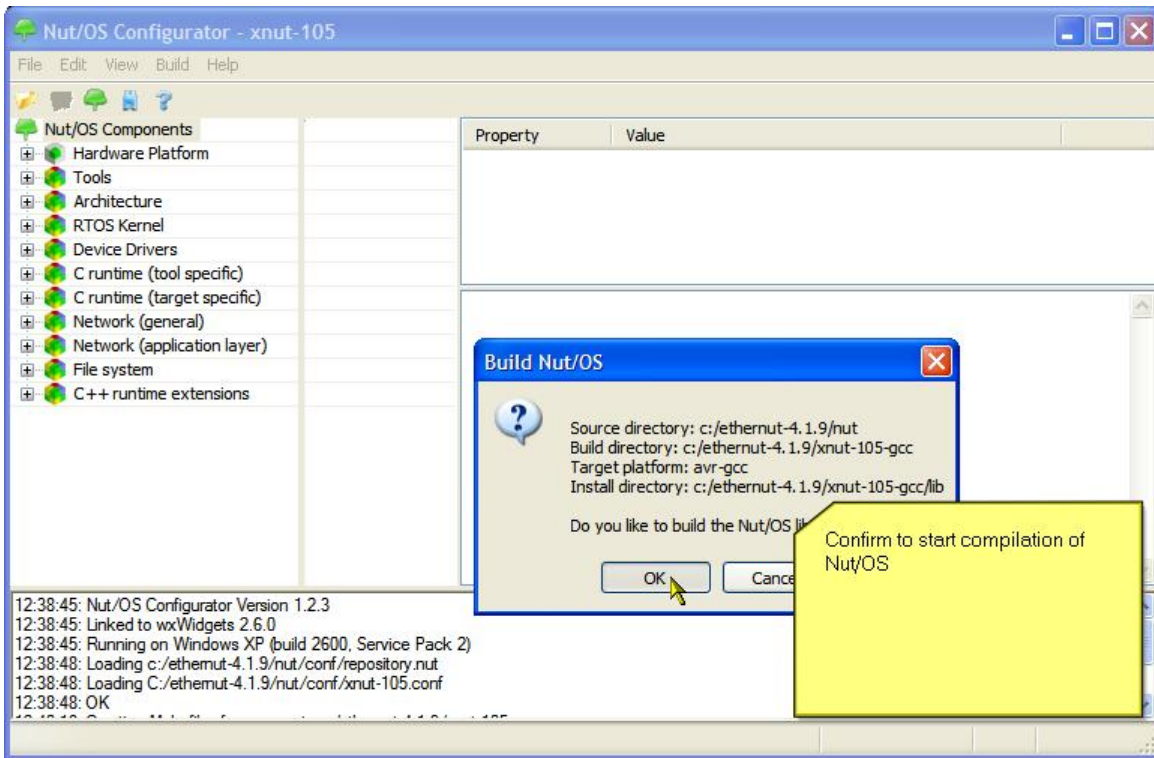
Run Build Command

In a first step the build directories will be created. Confirm the paths shown by clicking **OK**.



Generate Build Tree

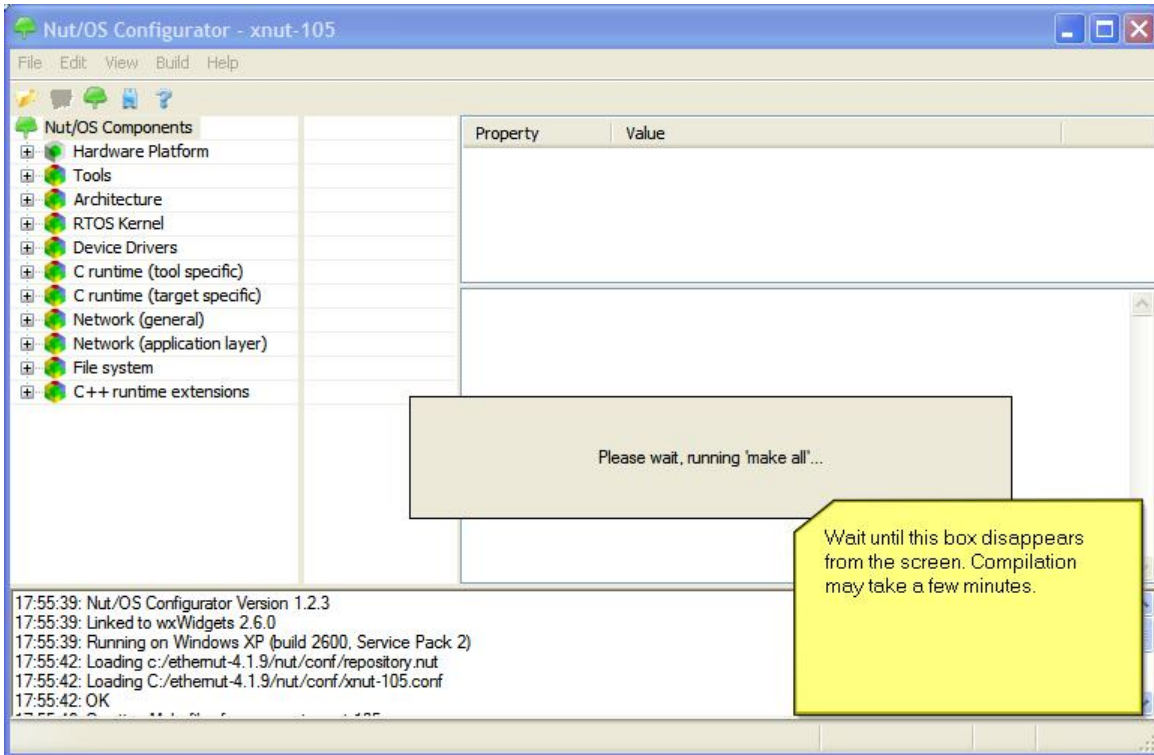
In a second step the *Nut/OS* libraries will be built. Click **OK** to start.



Compile Nut/OS

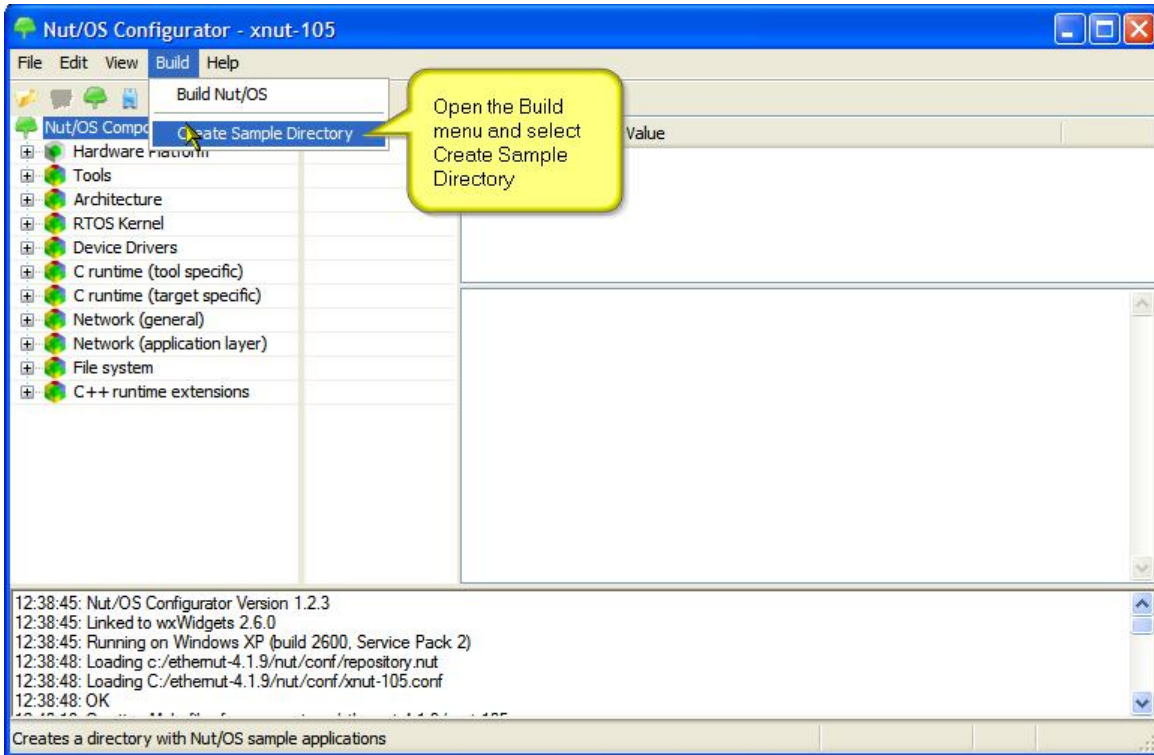
The compilation of *Nut/OS* may take a few minutes to complete. Once finished scroll down to the end of the log window and check the output. The last entry should be:

```
---- 'make install' terminated successfully ----
```



Compile Nut/OS

*Nut/OS* is shipped with a number of sample applications. Their makefiles must be configured first to point to the correct *Nut/OS* libraries for your platform. Select **Create Sample Directory** entry from the **Build** menu to copy the sample applications into a new Application Directory and associate it to the currently configured *Nut/OS* libraries.



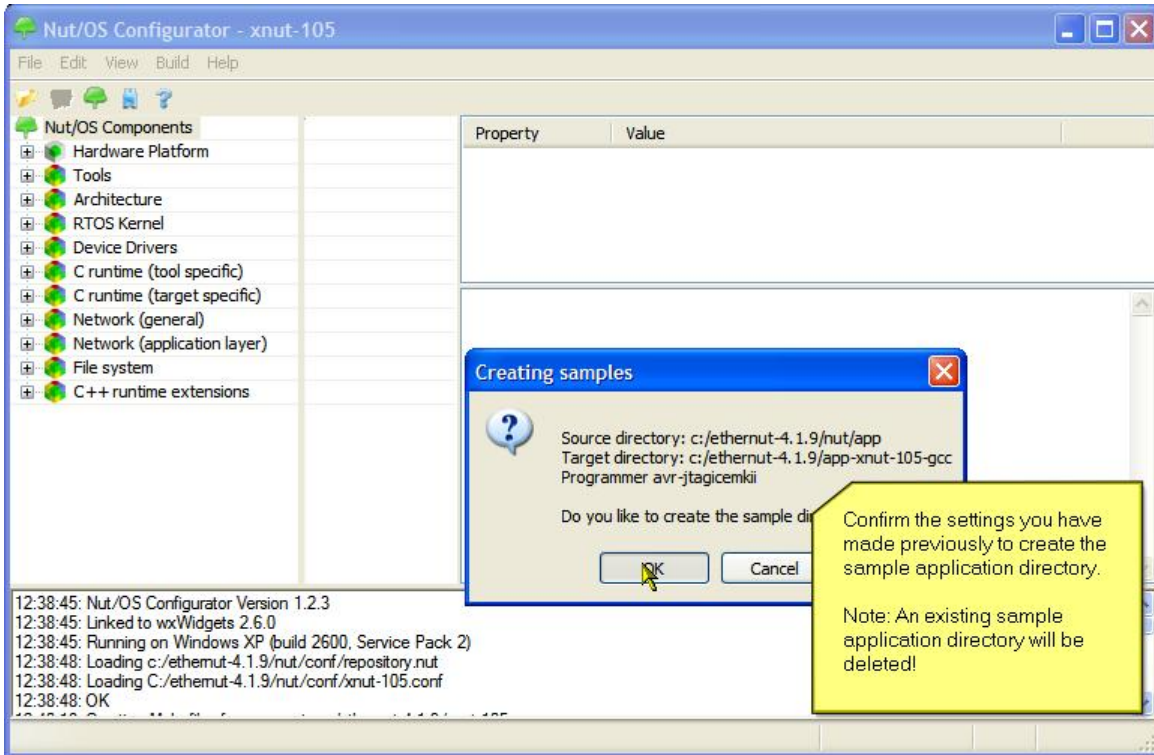
Run Create Sample Directory Command

Confirm the creation of the application directory.



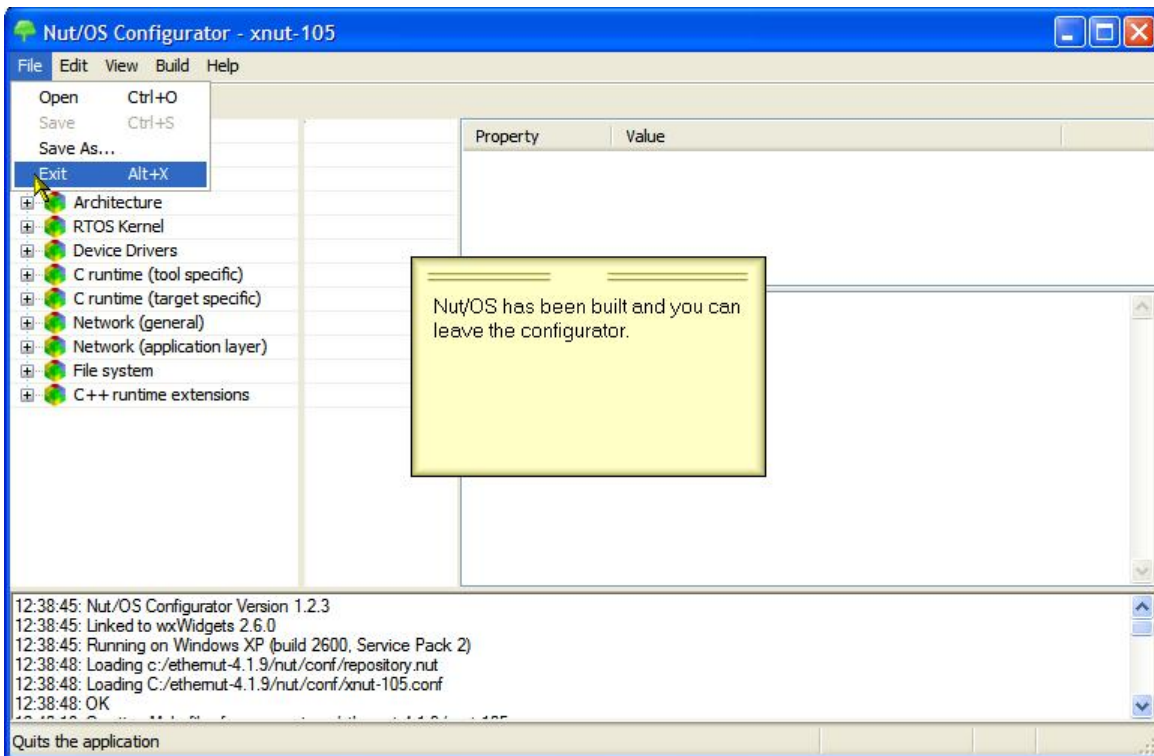
Should there already be an existing directory with same name, it will be deleted!





Confirm Settings

Nut/OS is ready to be used. Exit Nut/OS Configurator.



Exit Nut/OS Configurator

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