

**B**efore you start programming for Embedded Systems, you must install the necessary tools. The CDROM included with this book contains all the necessary tools to create and build such programs. You must install the tools on Windows 2000 SP4 or Windows XP SP2 system. The installation is divided in three steps:

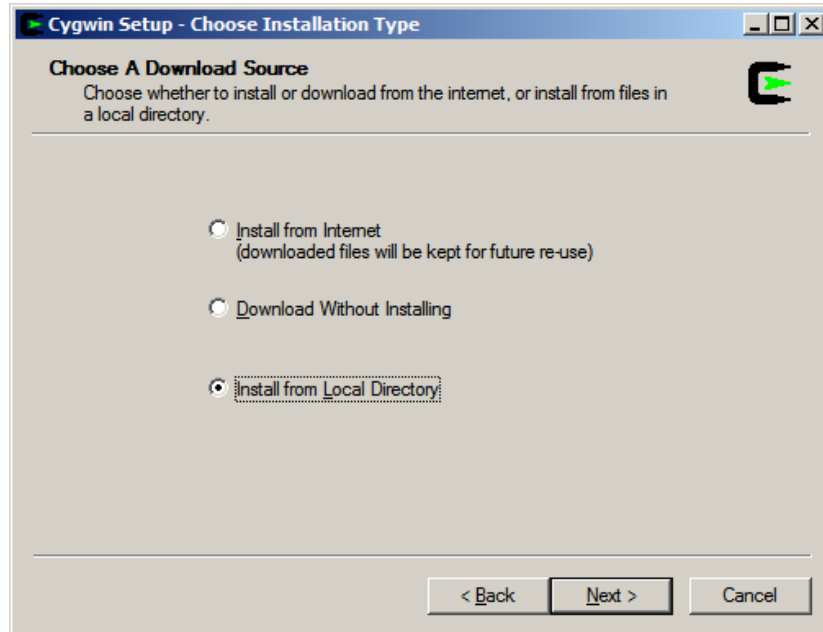
- (a) Install Cygwin
- (b) Install WinAVR tools
- (c) Setup Build Environment

Once you insert the CD in your PC's CDROM drive, an HTML file called DEFAULT.HTM will get launched in your browser. This file will show three links for carrying out the steps mentioned above. You need to click these links one after the other to carry out the three steps of installation. Make sure that you do not click the second link unless installation of cygwin (Step 1) is finished, and you do not click the third link unless installation of WinAVR tools (Step 2) is finished. The details of each of these three steps are discussed below.

## Step 1: Install cygwin

Carry out the following steps:

- ◆ Click on "*Install Cygwin*" link. Following window will appear:



*Figure B.1*

- ◆ Select "Install from Local Directory" as Installation Type. Click *Next*. Window shown in Figure B.2 will appear.

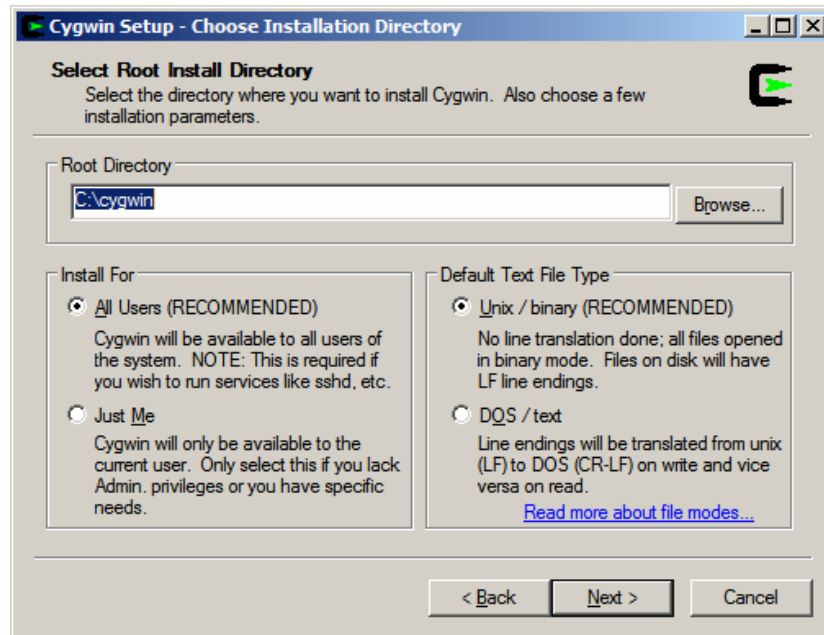
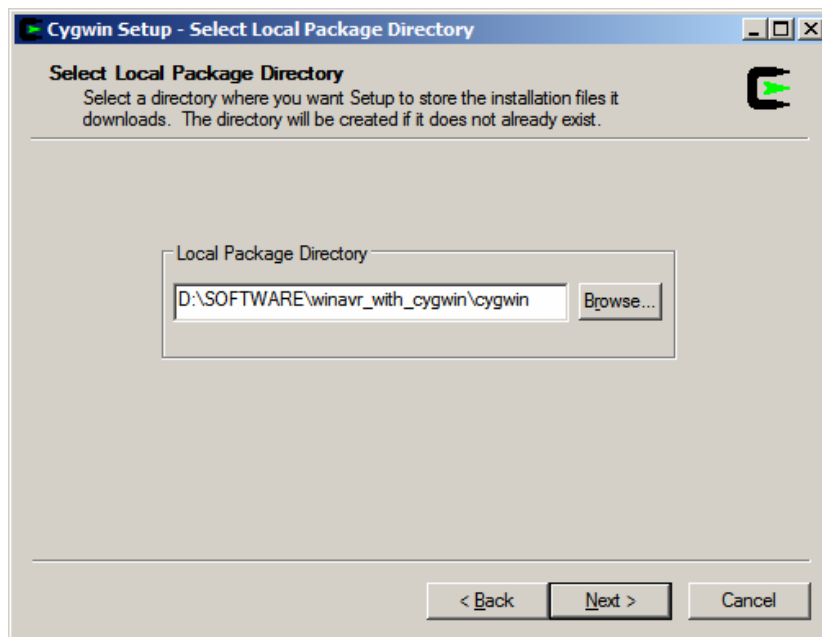


Figure B.2

- ◆ Do not make any changes in this dialog. Click *Next*. Following window will appear:



*Figure B.3*

- ◆ Select Local Package Directory dialog shows the folder from which cygwin will be installed. Type *D:\SOFTWARE\winavr\_with\_cygwin\cygwin* in *Local Package Directory* textbox. *D:\* is the letter for CDROM drive from which installation is started. If your CDROM drive letter is different, for example - E:, change D: to E:. Click *Next*. Following window will appear:

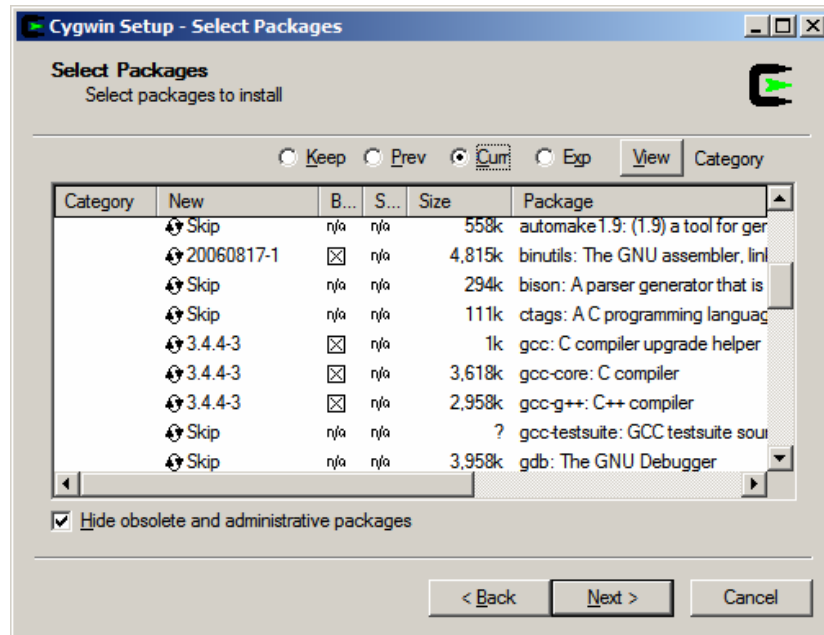


Figure B.4

- ◆ In this step, you must select packages to be installed. With your mouse, click on "Devel" Category and expand it. Search for package *gcc*. Select it for installation by clicking on the "Skip" label in its row. Go down and also select the package *make* by clicking on "Skip" label in its row. Following screen shows how the selection will appear. Click *Next* to continue installation.

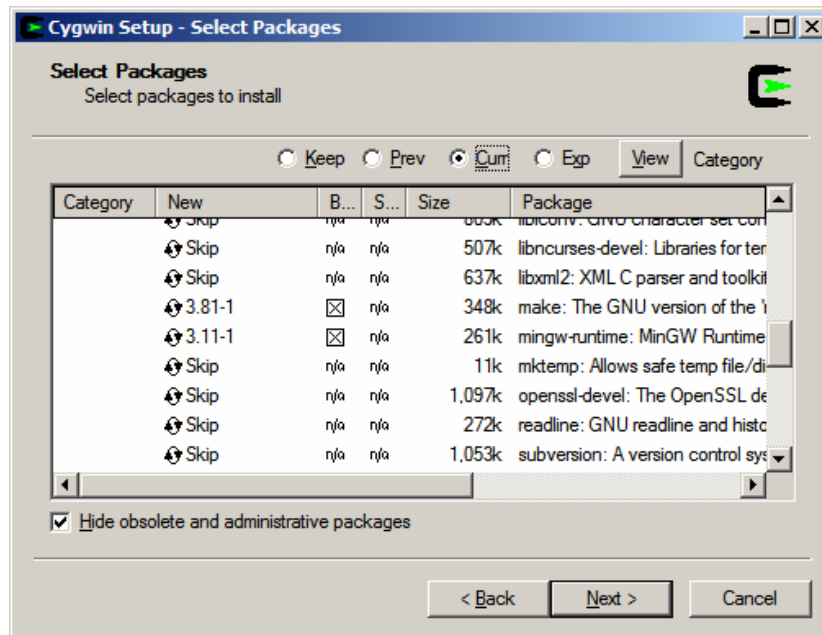
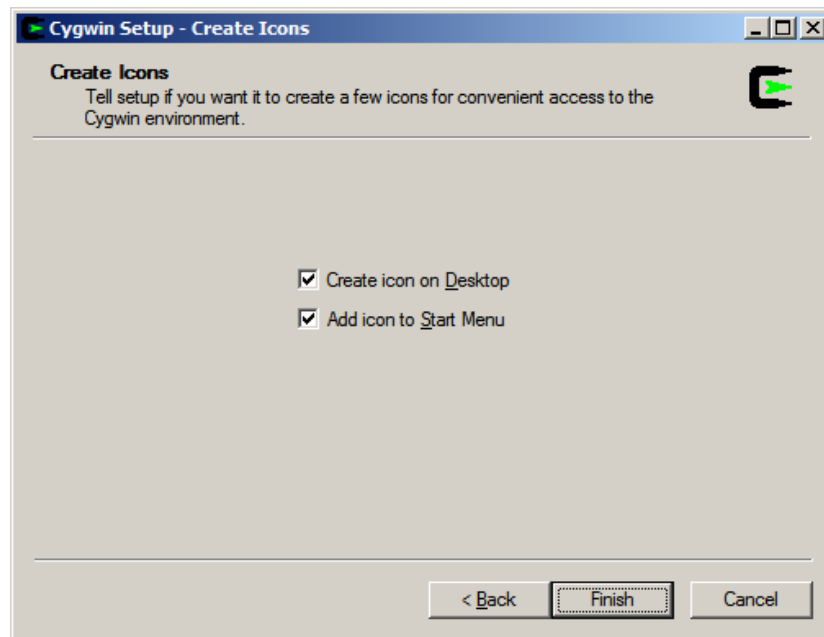


Figure B.5

- ◆ A window will show progress during the installation of cygwin packages. Wait until following window appear:



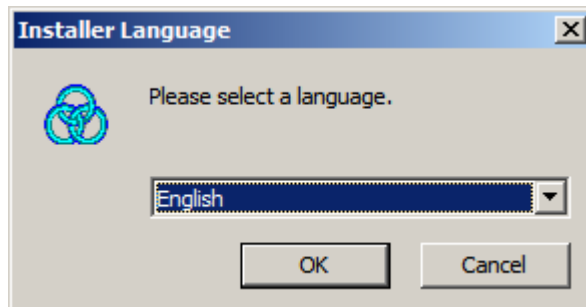
*Figure B.6*

- ◆ Click on *Finish* to complete the installation.

## Step 2: Install WinAVR Tools

Carry out the following steps:

- ◆ Click on "Install WinAVR tools" link. Following window will appear:



*Figure B.7*

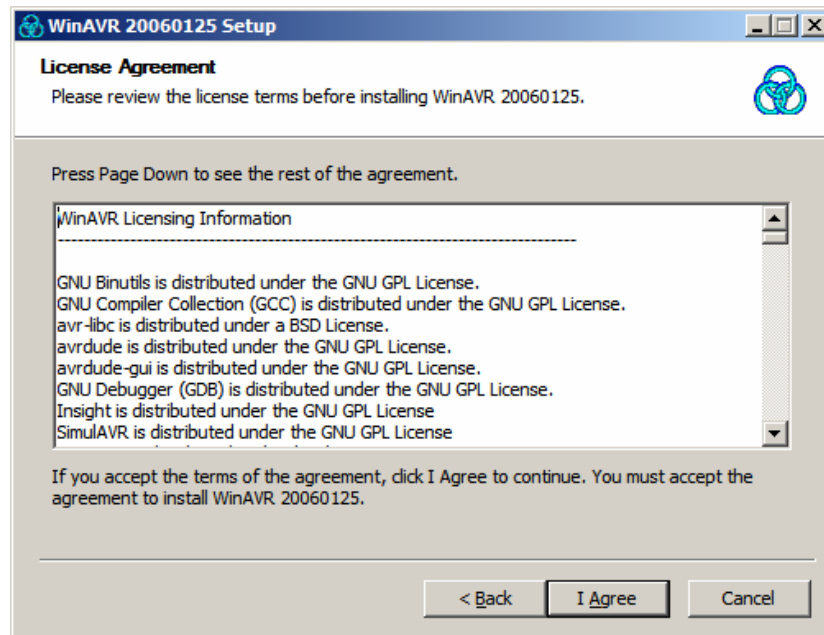
- ◆ Click OK to continue. Following window will appear:



*Figure B.8*

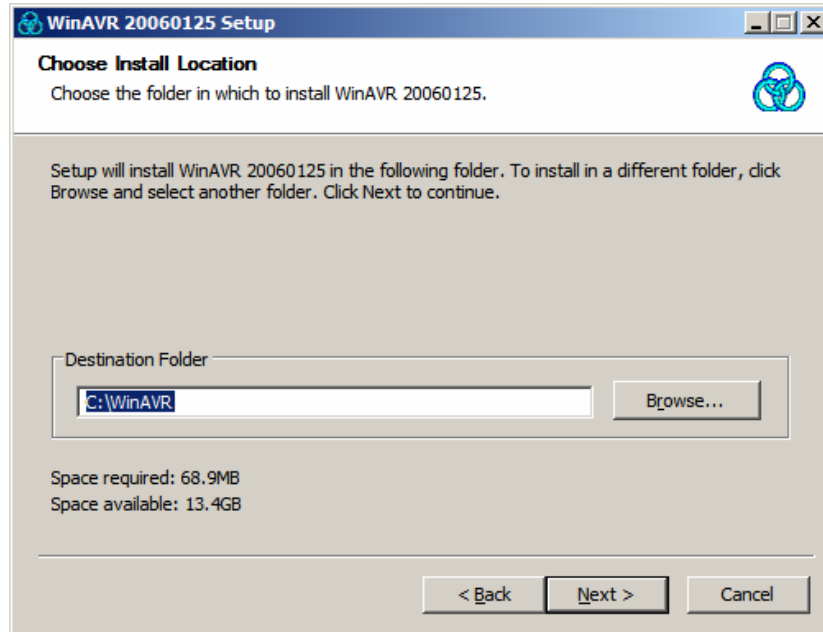
- ◆ Click *Next*. Following window will appear:





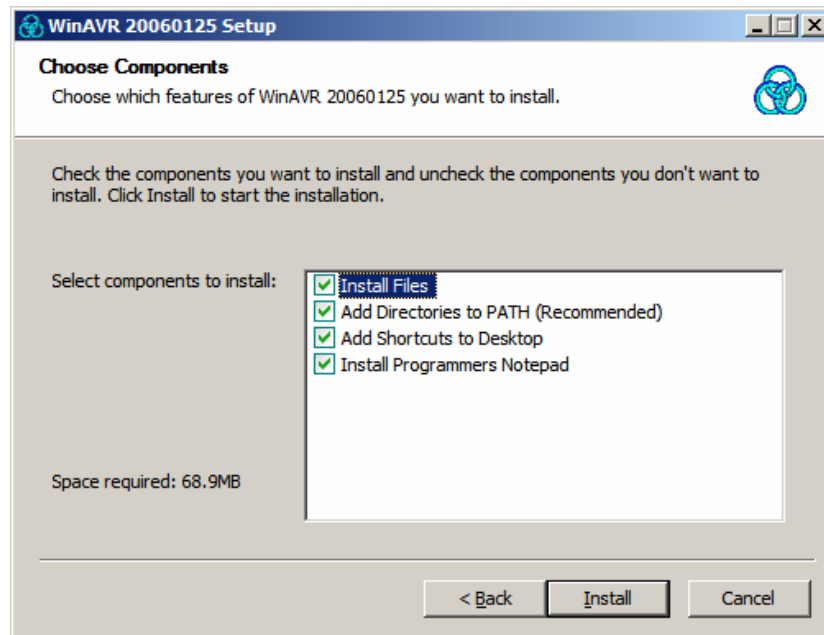
*Figure B.9*

- ◆ Click *I Agree*. Following window will appear:



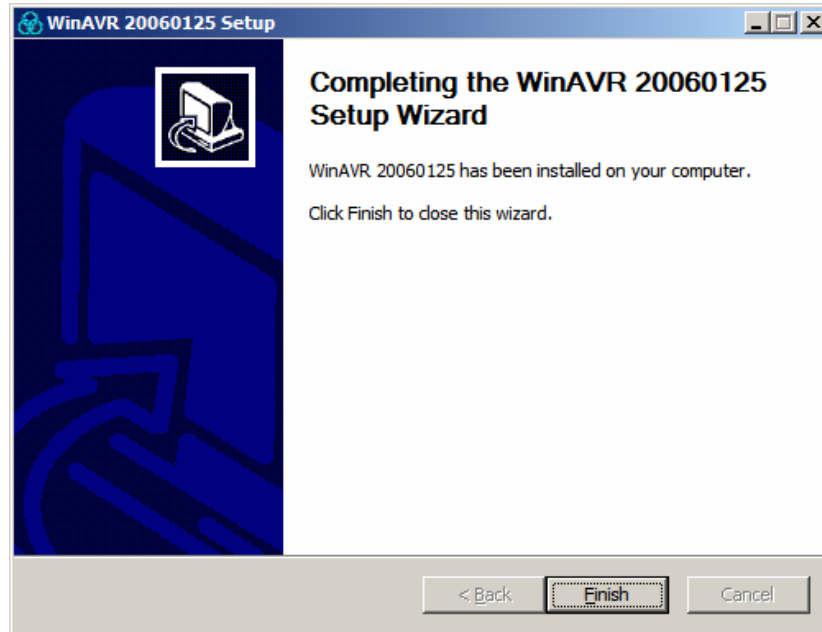
*Figure B.10*

- ◆ Click *Next* to continue installation. Following window will appear:



*Figure B.11*

- ◆ Click *Install* to begin installation process. Installation may take a few minutes. Finally following window will appear:



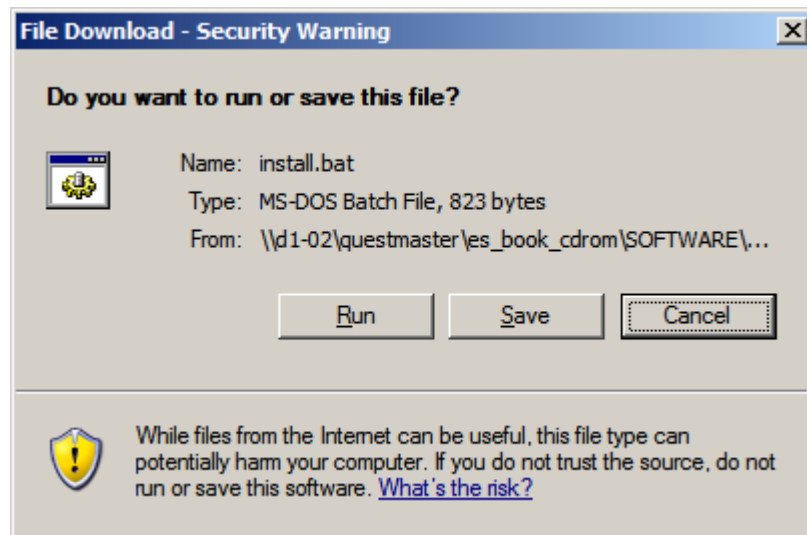
*Figure B.12*

- ◆ Click on *Finish* to complete the installation. An Internet Explorer window will be launched. Close that window.

### Step 3: Setup Build Environment

Carry out the following steps:

- ◆ Click on "Setup Build Environment" link. Following window will appear:



*Figure B.13*

- ◆ Click on *Run* button. A black console window will appear. Wait for it to close. Build environment is now successfully setup.