

Installing SDCC/Eclipse for 8051 Embedded Software Development

Note Regarding CU Lab Computers

The software tools described in this presentation are already installed on the computers in the embedded systems lab at CU.

You should be able to find all the elements on the lab machines, so do not try to install the components again.

The instructions in this presentation are intended to enable you to install the software on your own computers.

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Software Required

Software	Location
Java Runtime Environment (JRE) (JRE 6 or newer ¹)	http://java.sun.com/javase/downloads/index.jsp
SDCC Small Device C Compiler Revision 2.6.0 (or newer ¹)	http://sourceforge.net/projects/sdcc
Eclipse SDK Revision 3.2.1 (or newer ¹)	http://www.eclipse.org/downloads/
Eclipse C/C++ Development Tooling - CDT (CDT 3.1.1) ¹	http://wiki.eclipse.org/index.php/CDT
eclipseSDCC-1.0.0 ¹	http://sourceforge.net/projects/eclipse-sdcc

¹ Note: Typically you want to install the newest versions of the software components. However, some components, like the CDT and eclipseSDCC plug-in require specific versions for compatibility. You will need administrative privileges on your machine in order to install some of this software.

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Installing Java Runtime Environment (JRE)

1. Download and install JRE
<http://java.sun.com/javase/downloads/index.jsp>
As of March 2007, the latest version is JRE 6
2. Note – you might already have JRE installed in your machine. Reinstall latest version if necessary.

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Installing SDCC

1. Download SDCC 2.6.0
 - <http://sourceforge.net/projects/sdcc>
 - Earlier versions have known bugs you want to avoid
 - SDCC is open-source and is constantly evolving. Make sure you download from sourceforge.net for latest working version
2. In Windows XP, the standard location for the installation is C:\Program Files\SDCC
3. Perform a full installation (Bin, Doc, Lib, Src), which includes SDCC documentation. Version 2.6.0 requires about 22MB of disk space.
4. When prompted, add C:\Program Files\SDCC\bin to the PATH
5. The SDCC manual is available in PDF, HTML, and text formats in the C:\Program Files\SDCC\doc directory

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Installing Eclipse

1. Download Eclipse SDK 3.2.1
 - <http://www.eclipse.org/downloads/>
 - This is a large zipfile download of about 120MB
2. Unzip the file to a folder in the current directory
3. Copy the “eclipse” subfolder and all of its files and folders to C:\Program Files. If you like, rename the “eclipse” folder to capitalize it, so that you end up with C:\Program Files\Eclipse
4. Create a shortcut on your desktop or start menu to C:\Program Files\Eclipse\eclipse.exe

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Updating Eclipse with CDT

1. Start Eclipse (eclipse.exe)
 - When you start Eclipse, it will ask you to select a workspace
 - Create a workspace in a local folder that you own. Don't use create a workspace in a public or administrator folder that could be reformatted.
 - When using computers at CU, create the workspace on your own Z: drive.
2. Click on help->software updates -> find and install
3. Choose "Search for new features to install" and click "next"

See the installation presentation available on the course web site for screen pictures of the updating process.
For more info, see <http://wiki.eclipse.org/index.php/CDT>

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Updating Eclipse with CDT

4. Choose "Callisto Discovery Site"
5. Choose "Ignore features not applicable to environment"
6. Click "Finish"
7. Make sure that only "Callisto Discovery Site" is highlighted
8. and click "OK"
9. Expand the feature list under "Callisto Discover Site" and Select "C and C++ Development"
10. Select "Show the latest version of a feature only"
11. Click "Next"
12. Accept the License Agreement and Click "Next"

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Updating Eclipse with CDT

13. Confirm that all your installation settings are correct
14. And click "Finish"
 - Else go "back" and make changes if necessary
15. Downloading and installing may take quite some time – several files totaling more than 11MB are downloaded
16. You may see a warning about a feature not being signed. Accept unsigned feature installation to allow installation to continue.
17. Make sure you restart Eclipse when done – this will allow Eclipse to incorporate the CDT features.

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Installing the eclipseSDCC Plug-in

1. Download the SDCC plug-in for Eclipse, eclipseSDCC-1.0.0, from <http://sourceforge.net/projects/eclipse-sdcc>
2. Extract the zipfile contents into a new folder. (For Windows, the zipfile is net.sourceforge.eclipsesdcc-1.0.0-win32.x86.zip)
3. Browse into the extracted folder until you find the folders "plugins" and "features"
4. Copy the contents of the "plugins" folder to your Eclipse "plugins" folder (where you installed eclipse before, C:\Program Files\Eclipse\plugins)
5. Copy the contents of the "features" folder to your Eclipse "features" folder (where you installed eclipse before, C:\Program Files\Eclipse\features)
6. Read the help documents in C:\Program Files\Eclipse\plugins\net.sourceforge.eclipsesdcc_1.0.0\help for tips on how to create a new MCS51family(SDCC) project.
7. Restart Eclipse

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