



GoDroid

Application Notes

**Compiling Server Installation and
Configuration Guide**

v1.1



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Preface

Overview

This manual mainly describes the installation and configuration of the compiler toolchain for GoDroid v1.1. It contains general overview on GoDroid's hardware and software environment requirements, compiler toolchain installation and configuration procedures. This manual is organized into the following chapters:

- **Chapter 1: Preparation for Installation**

This chapter gives compact description about the hardware and software environment required for installation of GoDroid compiler toolchain.

- **Chapter 2: Installing and Configuring Compiler Toolchain**

This chapter describes procedures of installing and configuring the compiler toolchain.

- **Chapter 3: FAQ**

This chapter describes range of common problems and their solutions which can be arise in during the installation and configuration of compiler toolchain.

Audience

This manual is intended for users who need to install GoDroid compiling toolchain. It is assumed that readers are familiar with installation and configuration of Linux Ubuntu Operating System, or can install Ubuntu Operating System by following the installation guide in Ubuntu website.

Applicable Products

This manual is applicable for systems where GoDroid compiler toolchains need to be installed.

Reference Documents

N/A

Conventions

Typographical Conventions

Item	Format
codes, keyboard input commands, file names, equations, and math	Courier New, Size 10.5
Variables, code variables, and code comments	<i>Courier New, Size, Italic</i>
Menu item, buttons, tool names	Ebrima, Size 10.5, Bold e.g. Select USB Debugging
Screens, windows, dialog boxes, and tabs	Ebrima, Size 10.5, Bold Enclosed in double quotation marks e.g. Open the “Debug Configuration” dialog box

Table 1. Typographical Conventions

Symbol Conventions




Item	Description
 Caution	Indicates a potential hazard or unsafe practice that, if not avoided, could result in data loss, device performance degradation, or other unpredictable results.
 Note	Indicates additional and supplemental information for the main contents.
 Tip	Indicates a suggestion that may help you solve a problem or save your time.

Table 2. Symbol Conventions

How to Contact Us

Submit all your comments and error reports to the author at:

info@gowarriorosh.com

Tel: +886-2-8752-2000

Fax: +886-2-8751-1001

For questions regarding GoWarrior, contact our support team at the email listed below:

support@gowarriorosh.com

1 Preparation for Installation

This chapter gives compact description about hardware and software configurations required by installation of the compiling server.

1.1 Hardware Environment Deployment

The following table shows the recommended server hardware configurations.

Accessory	Description
CPU	Intel® Xeon® processor, more than 8 cores
Memory	More than 64 GB
Hard disk	More than 2 T Bytes
Network	Gigabit Ethernet

Table 3. Recommended Server Configurations

1.2 Software Environment Deployment

1.2.1 Software List

- Google officially recommends using **Ubuntu 64-bit** operating system, where we recommend using **Ubuntu 12.04 LTS**.
- Oracle Java SE Development Kit 6u45 (Hereinafter referred to as the JDK 6).

- Repo Tool and AOSP source code tree.

1.2.2 Software Deployment Sequence

Hardware	Software Deployment Sequence	Remarks
Compiling Server	Install Ubuntu operating system. Install JDK 6. Install Repo to get AOSP codes.	Ubuntu operating system can be downloaded from Ubuntu official website: http://www.ubuntu.com/index-roadshow .

Table 4. Software Deployment Sequence

2 Installing and Configuring Compiler Toolchain

This chapter describes how to install and configure GoDroid compiler Toolchain, including basic tool installation. Also is gives insight on the installation and configuration of JDK 6 and Repo.

2.1 Installing Basic Tools

Once the operating system is installed, the tools and library files required for the installation of GoDroid must be installed consequently. For Ubuntu system, the installation can be completed by executing the `apt-get` command.

```
$ sudo apt-get install git gnupg flex bison gperf build-essential \  
zip curl libc6-dev libncurses5-dev:i386 x11proto-core-dev \  
libx11-dev:i386 libreadline6-dev:i386 libgl1-mesa-glx:i386 \  
libgl1-mesa-dev g++-multilib mingw32 tofrodos \  
python-markdown libxml2-utils xsltproc zlib1g-dev:i386 \  
libuuid1:i386  
  
$ sudo ln -s /usr/lib/i386-linux-gnu/mesa/libGL.so.1  
/usr/lib/i386-linux-gnu
```

2.2 Installing and Configuring JDK 6

2.2.1 Downloading JDK6 Package

Procedure:

You can use GoWarrior github to get some files required by server configuration by executing the following command.

```
git clone  
https://github.com/GoWarrior/tools_jdk-6u45-linux-x64.git
```

Where `jdk-6u45-linux-x64.bin` is included.

2.2.1 Installing JDK 6

Procedure:

1. Insert the downloaded package (for example `jdk-6u45-linux-x64.bin`) in an empty directory, and then execute the following commands.

```
$ chmod a+x jdk-6u45-linux-x64.bin  
$ ./jdk-6u45-linux-x64.bin
```

2. Create jdk to the system directory.

```
$ sudo mkdir /usr/lib/jvm  
$ sudo tar cvf - jdk1.6.0_45 | (cd /usr/lib/jvm; tar xvf - )
```

2.2.2 Configuring JDK 6

Procedure:

1. Set Oracle JDK6 to the default JDK by executing the following commands.

```
$ sudo update-alternatives --install /usr/bin/javac javac
```

```
/usr/lib/jvm/jdk1.6.0_45/bin/javac 1

$ sudo update-alternatives --install /usr/bin/java java
/usr/lib/jvm/jdk1.6.0_45/bin/java 1

$ sudo update-alternatives --install /usr/bin/javaws javaws
/usr/lib/jvm/jdk1.6.0_45/bin/javaws 1

$ sudo update-alternatives --install /usr/bin/jar jar
/usr/lib/jvm/jdk1.6.0_45/bin/jar 1

$ sudo update-alternatives --install /usr/bin/javadoc javadoc
/usr/lib/jvm/jdk1.6.0_45/bin/javadoc 1

$ sudo update-alternatives --install /usr/bin/javap javap
/usr/lib/jvm/jdk1.6.0_45/bin/javap 1
```

2. Use the update-alternatives command to confirm that each java command points to Oracle JDK.

```
rodger.lin@shsa01:~/work/s3921/jb$ sudo update-alternatives --config java
There are 2 choices for the alternative java (providing /usr/bin/java).

  Selection    Path                                                    Priority    Status
  -----
    0          /usr/lib/jvm/java-6-openjdk-amd64/jre/bin/java        1061       auto mode
    1          /usr/lib/jvm/java-6-openjdk-amd64/jre/bin/java        1061       manual mode
*   2          /usr/lib/jvm/jdk1.6.0_45/bin/java                    1          manual mode

Press enter to keep the current choice[*], or type selection number: █
```

The above mentioned is a typical example. If both Oracle JDK and Open JDK have been installed on the server, make sure to select Oracle JDK and execute all of the following commands.

```
$ sudo update-alternatives --config javac
$ sudo update-alternatives --config javaws
$ sudo update-alternatives --config java
$ sudo update-alternatives --config jar
$ sudo update-alternatives --config javadoc
$ sudo update-alternatives --config javap
```

2.3 Downloading Repo

Android uses Git as its code management tool, and develops the Repo command-line tool to package partial Git's commands to effectively organize more than 100 Git libraries.

Procedure:

1. Create the bin sub-directory under HOME directory and add it to the path.

```
$ mkdir ~/bin  
$ PATH=~/bin:$PATH
```

2. Download Repo.

```
$ curl https://storage.googleapis.com/git-repo-downloads/repo >  
~/bin/repo  
  
$ chmod a+x ~/bin/repo
```

3 FAQ

Problem Description	Solution
Permissions problems, such as "Permission denied" prompt, may appear during installation, which leads to operation failure.	If ordinary users need to execute some root commands, please preface the commands with <code>sudo</code> . For example, the command <code>mkdir/usr/lib/jvm</code> needs to be changed to <code>sudo mkdir/usr/lib/jvm</code> . Besides, if you failed to execute <code>sudo</code> , please contact your system administrator to add your account to the <code>sudoers</code> .

Table 5. FAQ List

Revision History

Document Change History

Revision	Changes	Date
v1.1	Updated document version to 1.1.	February 29, 2016
v1.0	Initial Release	September 07,2015

Table 6. Document Change History

Software Change History

Revision	Changes	Date
v1.1	Install and start GoDroid with a MicroSD card.	February 29, 2016
v1.0	Initial Release	September 07,2015

Table 7. Software Change History



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