

**Gateway Firmware Build Guide**

**Growhouse**

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# Introduction

The purpose of this document is to guide how to build firmware images for GrowHouse gateway board.

# PRErequisite

## Hardware prerequisite

CPU: 2 GHz or better

Memory: 16 GB recommended.

Disk space: Minimum required 130 GB.

## Software Prerequisite

Below are the Software pre-requisite for build firmware for gateway.

* Linux HOST machine with Ubuntu 16.04 and good internet connectivity.
* Below utilities is required in Linux host machine for building the source code.

1. curl

You can install curl utility using below command:

$ **sudo apt-get install curl**

1. repo

You can install repo utility using below command if Ubuntu version >= 16.04 version.

$ **sudo apt-get install repo**

If Ubuntu version is lower than 16.04 then install repo using below command.

$ **mkdir ~/bin**

$ **PATH=~/bin:$PATH**

$ **curl https://storage.googleapis.com/git-repo-downloads/repo > ~/bin/repo**

$ **chmod a+x ~/bin/repo**

1. chrpath

You can install chrpath utility using below command:

$ **sudo apt-get install chrpath**

1. gawk

You can install gawk utility using below command:

$ **sudo apt-get install gawk**

1. texinfo

You can install texinfo utility using below command:

$ **sudo apt-get install texinfo**

1. python

You can install pyton utilities using below command:

$ **sudo apt-get install python3**

$ **sudo apt-get install python**

$ **sudo apt-get install python-minimal**

* Download the Gateway\_Firmware.zip package from FTP Server from below link.

<ftp://ftpserver.einfochips.com/Gateway-Firmware/>

Below is the credential for FTP server.

Username: ae.growhouse

Password: %+fTk?\*%dE

# Build FIRMWARE IMAGE FOR gateway board

## Software Steps

Follow below steps to build firmware image for gateway board.

* Open terminal in linux and go to downloaded file path of Gateway\_Firmware.zip

$ **cd <downloaded file path>**

* Extract the Gateway\_Firmware.zip. Firmware source code will extract in growhouse directory.

$ **unzip Gateway\_Firmware.zip**

* Follow apps\_proc directory into growhouse directory.

$. **cd growhouse/gateway-db410c/apps\_proc**

* Run the below command to generate gateway images.

$ **. setup-environment build**

Here you will be redirected to build directory. Now run the below command to compile the source.

$ **bitbake rpb-console-image**

* After successfully build, check generated firmware images in below directory.

$ **cd tmp-glibc/deploy/images/dragonboard-410c/**

$ **ls**

Firmware image file will be generated as named below.

1. boot-dragonboard-410c.img
2. emmc\_appsboot.mbn
3. rpb-console-image-dragonboard-410c.ext4.gz

* Extract gateway firmware image using below command

$ **gunzip -f rpb-console-image-dragonboard-410c.ext4.gz**

# Flash Firmware Image On Gateway Board

Follow the steps mentioned in the Gateway flashing document “[Gateway Flashing Guide](https://svn.einfochips.com/svn/growhouse/12.%20Software%20Specific/Coding%20&%20Development/Release/Gateway_Flashing_Guide.docx)”

**Note:** After the Gateway Firmware build, firmware binaries will be generated as below.

1. boot-dragonboard-410c.img
2. emmc\_appsboot.mbn
3. rpb-console-image-dragonboard-410c.ext4

Path for Generated Binaries: ***<Downloaded file path> growhouse/gateway-db410c/apps\_proc/build/tmp-glibc/deploy/images/dragonboard-410c/***

Replace this generated firmware files in the Gateway Firmware package for flashing the gateway board, while following the Gateway flashing document “[Gateway Flashing Guide](https://svn.einfochips.com/svn/growhouse/12.%20Software%20Specific/Coding%20&%20Development/Release/Gateway_Flashing_Guide.docx)”