

**Gateway Firmware Build Guide**

**Growhouse**

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**Contents**

[1 Introduction 3](#_Toc5720567)

[2 PRErequisite 4](#_Toc5720568)

[2.1 Software Prerequisite 4](#_Toc5720569)

[3 Build FIRMWARE IMAGE FOR gateway board 5](#_Toc5720570)

[3.1 Software Steps 5](#_Toc5720571)

**FIGURES**

**No table of figures entries found.**

# Introduction

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

# PRErequisite

## Hardware prerequisite

Host machine: Linux OS

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 is MUST 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**

# 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 directory where the growhouse repository cloned from github.
* Go into IoT\_Gateway/growhouse/gateway-db410c directory

*$ cd {GitHub repository}/ IoT\_Gateway/growhouse/gateway-db410c directory*

* Run build.sh directory present into gateway-db410c directory.

*$ ./build.sh*

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

*$ cd apps\_proc/build/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*

**Hence, the Images are build and ready to flash into dragon board.**