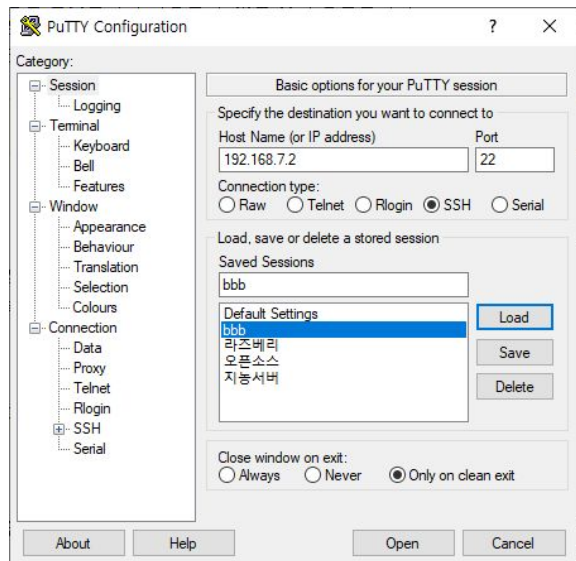




# FarmOS Installation

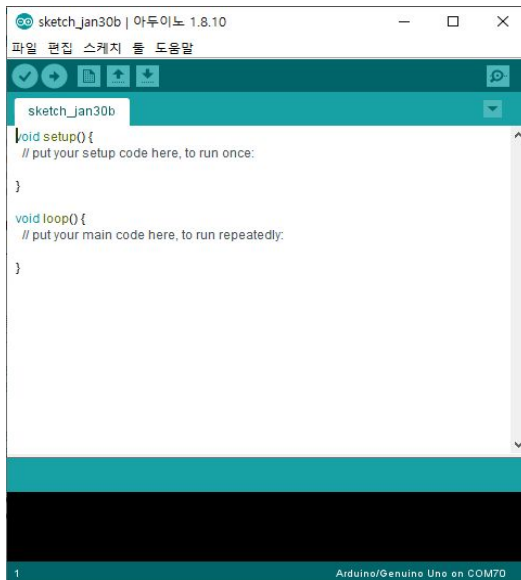
실습

# 필요한 파일 설치



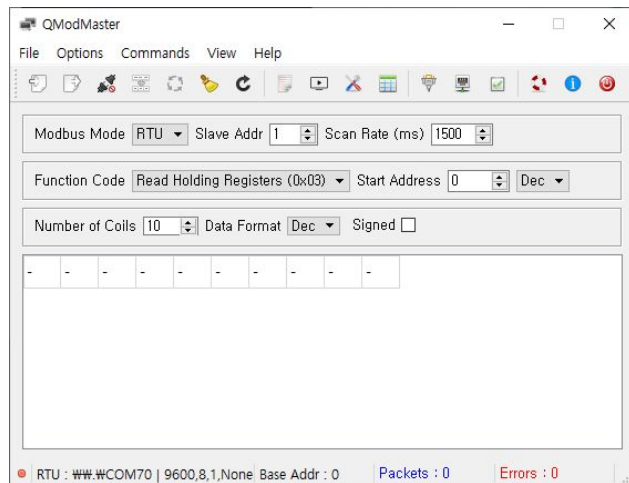
putty 다운로드

<http://www.chiark.greenend.org.uk/~sgtatham/putty/>



아두이노 다운로드

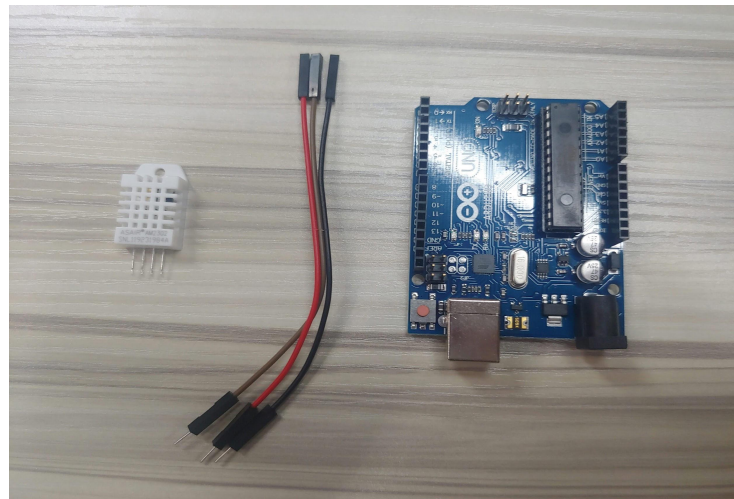
<https://www.arduino.cc/>



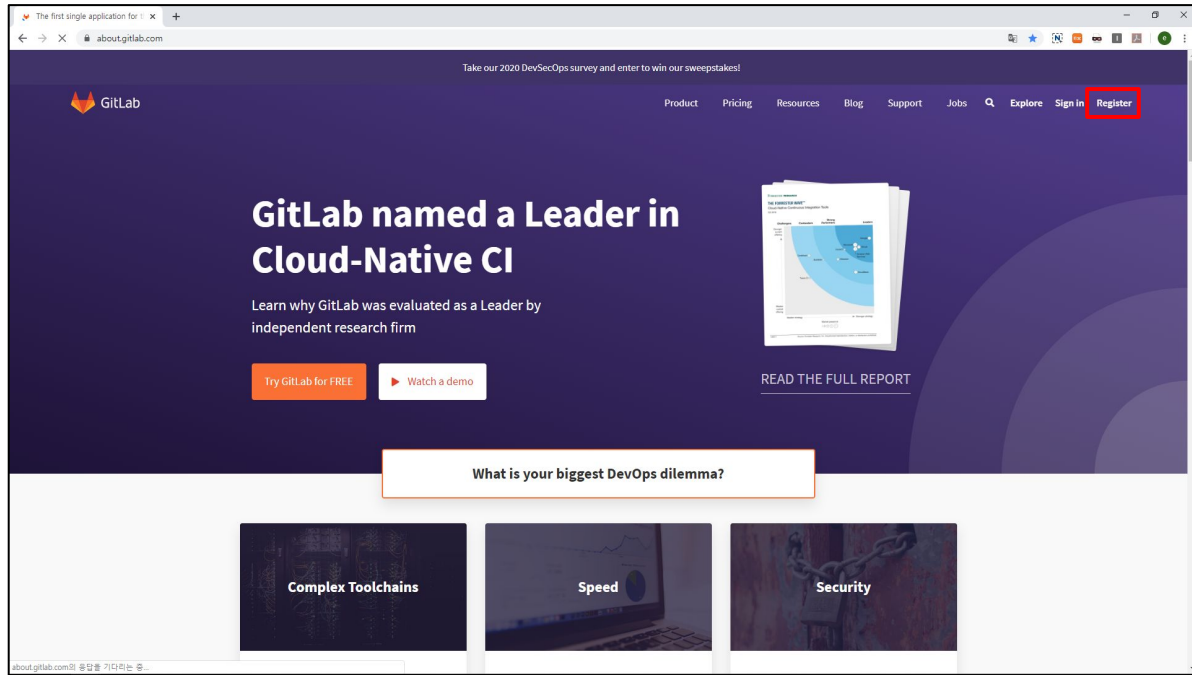
QModMaster 다운로드

<https://sourceforge.net/projects/qmodmaster/>

# 준비물




# GITLAB ID 생성



<https://about.gitlab.com/> 접속  
Register 버튼 클릭

# GITLAB ID 생성



## Register for GitLab

First name

이름

Last name

성

Username

닉네임

Email

이메일

Password


패스워드

Minimum length is 8 characters

☐ I accept the [Terms of Service and Privacy Policy](#)

☐ I'd like to receive updates via email about GitLab.


☐ 로봇이 아닙니다.


  
reCAPTCHA  
개인정보 보호 - 약관


Register


or


Create an account using:

 Google

 GitHub

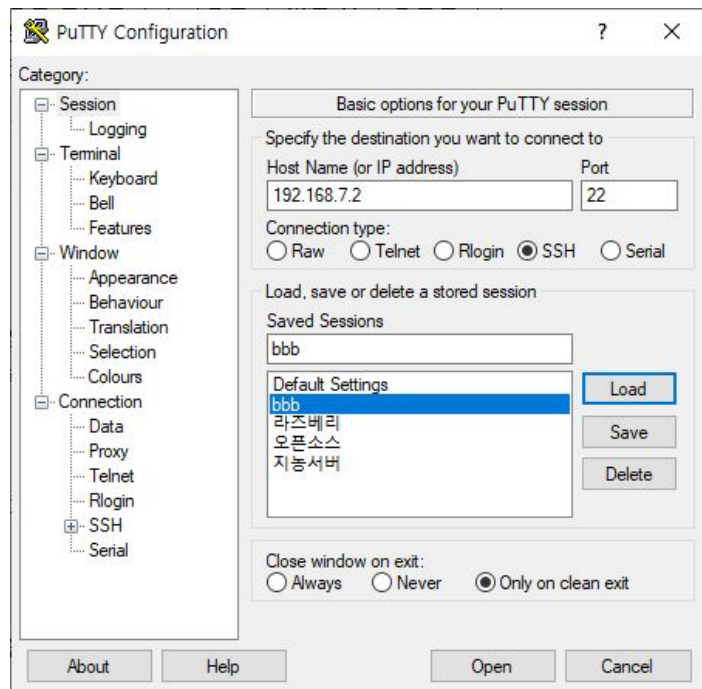
 Twitter

 Bitbucket

 Salesforce

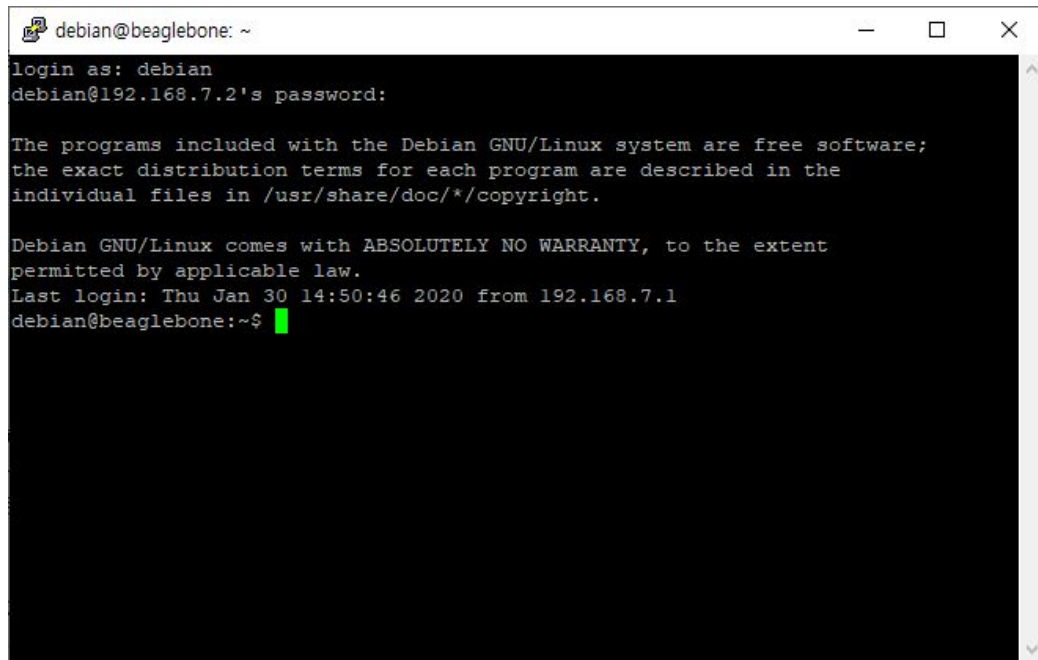
Already have login and password? [Sign in](#)

# PUTTY로 BBB 접속



192.168.7.2 로 접속

# BBB 로그인



```
debian@beaglebone: ~  
login as: debian  
debian@192.168.7.2's password:  
  
The programs included with the Debian GNU/Linux system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.  
Last login: Thu Jan 30 14:50:46 2020 from 192.168.7.1  
debian@beaglebone:~$
```

ID : debian

PW : jinong1

# farmosV2 다운로드

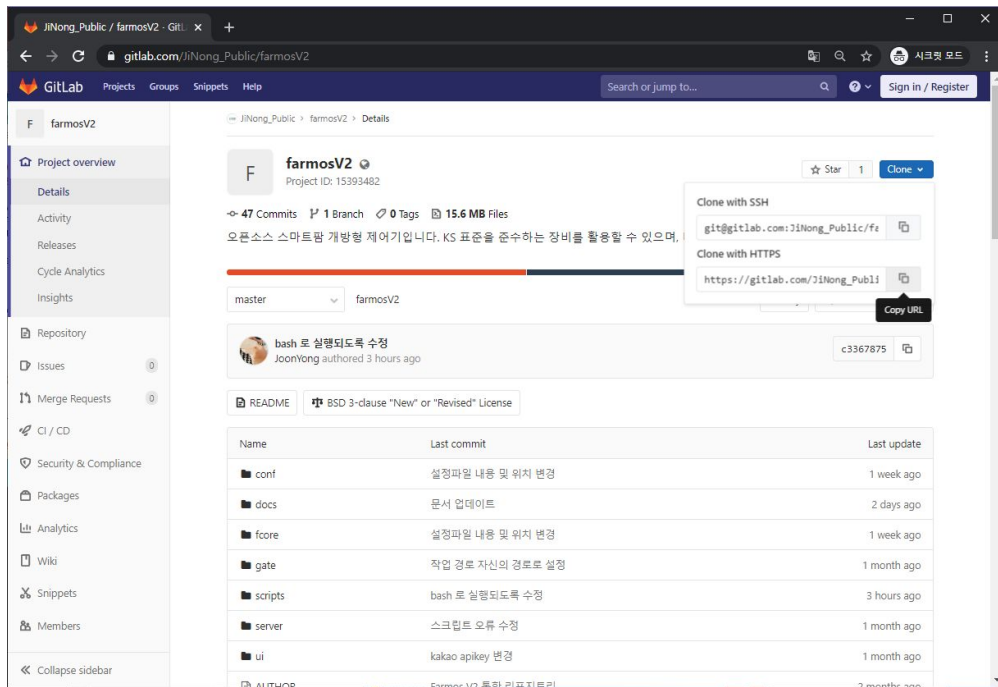
The screenshot shows the GitLab interface for the 'JiNong\_Public' group. The left sidebar contains navigation links: Group overview, Details, Activity, Issues (3), Merge Requests (0), and Members. The main content area shows the group details, including the group name 'JiNong\_Public' and ID '3583249'. Below this, there's a description in Korean: '주식회사 지농에서 공개하는 오픈소스 프로젝트 그룹'. The 'Subgroups and projects' tab is selected, displaying a list of projects. The 'farmosV2' project is highlighted with a red box. The project list includes the following information:

Project Name	Stars	Last Created
<b>farmosV2</b> 오픈소스 스마트팜 개방형 제어기입니다. KS 표준을 준수하는 장비를 활용	1	3 weeks ago
ksx3267-sample	0	7 months ago
devspecsvc Device Specification Service	0	7 months ago
ksx3267-devspec-inspector 장비규격정보서 검사기	0	9 months ago
pycvtdriver cvtdriver를 python에서 접근할 수 있도록 도와주는 래핑 서비스 입니다.	0	9 months ago
cdtp 주식회사 지농과 경북대 식품기계 및 바이오센서 연구실에서 제공하는 "스	0	1 year ago

[https://gitlab.com/JiNong\\_Public](https://gitlab.com/JiNong_Public)



# farmosV2 다운로드



GitLab repository page for **farmosV2** (Project ID: 15393482).

Project overview: 47 Commits, 1 Branch, 0 Tags, 15.6 MB Files.

Repository description: 오픈소스 스마트팜 개방형 제어기입니다. KS 표준을 준수하는 장비를 활용할 수 있으며,

Clone options:

- Clone with SSH: `git@gitlab.com:JiNong_Public/farmosV2.git`
- Clone with HTTPS: `https://gitlab.com/JiNong_Public/farmosV2.git`

Files list:

Name	Last commit	Last update
conf	설정파일 내용 및 위치 변경	1 week ago
docs	문서 업데이트	2 days ago
fcore	설정파일 내용 및 위치 변경	1 week ago
gate	작업 경로 자신의 경로로 설정	1 month ago
scripts	bash 로 실행되도록 수정	3 hours ago
server	스크립트 오류 수정	1 month ago
ui	kakao apilkey 변경	1 month ago

```
debian@beaglebone: ~  
login as: debian  
debian@192.168.7.2's password:  
  
The programs included with the Debian GNU/Linux system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.  
Last login: Thu Jan 30 14:50:46 2020 from 192.168.7.1  
debian@beaglebone:~$ ls  
bin  
debian@beaglebone:~$ git clone https://gitlab.com/JiNong_Public/farmosV2.git  
Cloning into 'farmosV2'...  
remote: Enumerating objects: 603, done.  
remote: Counting objects: 100% (603/603), done.  
remote: Compressing objects: 100% (441/441), done.  
remote: Total 603 (delta 194), reused 523 (delta 125), pack-reused 0  
Receiving objects: 100% (603/603), 11.43 MiB | 850.00 KiB/s, done.  
Resolving deltas: 100% (194/194), done.  
Checking out files: 100% (336/336), done.  
debian@beaglebone:~$ ls  
bin farmosV2  
debian@beaglebone:~$
```

**git clone** `https://gitlab.com/JiNong_Public/farmosV2.git`

```
debian@beaglebone: ~/farmosV2/scripts
```

Checking out files: 100% (336/336), done.

```
debian@beaglebone:~$ ls  
bin farmosV2  
debian@beaglebone:~$ cd farmosV2/  
debian@beaglebone:~/farmosV2$ ls  
AUTHOR conf docs fcore gate LICENSE README.md scripts server ui  
debian@beaglebone:~/farmosV2$ cd scripts/  
debian@beaglebone:~/farmosV2/scripts$ ls  
farmos.sql install.sh  
debian@beaglebone:~/farmosV2/scripts$ sudo ./install.sh  
[sudo] password for debian:
```

FARMOS V2

.

1. apt update

```
Ign:1 http://deb.debian.org/debian stretch InRelease  
Hit:2 http://repos.rcn-ee.com/debian stretch InRelease  
Hit:3 http://deb.debian.org/debian stretch-updates InRelease  
Hit:4 http://deb.debian.org/debian-security stretch/updates InRelease  
Hit:5 http://deb.debian.org/debian stretch Release  
Reading package lists... 64%
```

1. /farmosV2/scripts 접속 : cd farmosV2/scripts/
2. 설치 : sudo ./install.sh

# UI 접속

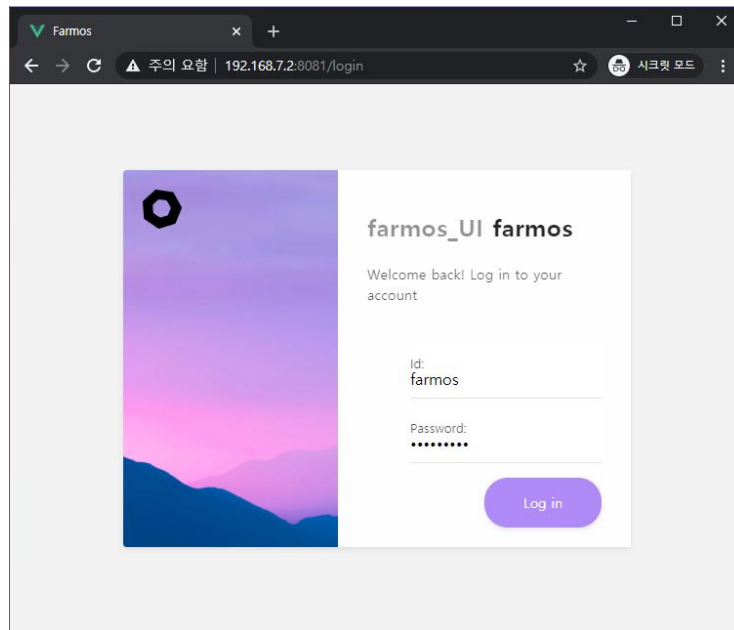
```
debian@beaglebone: ~/farmosV2/scripts
debian@beaglebone:~/farmosV2/scripts$ ifconfig
eth0: flags=28605<UP,BROADCAST,RUNNING,MULTICAST,DYNAMIC> mtu 1500
    inet 192.168.1.181 netmask 255.255.255.0 broadcast 192.168.1.255
    inet6 fe80::f245:daff:fe77:4e14 prefixlen 64 scopeid 0x20<link>
    ether f0:45:da:77:4e:14 txqueuelen 1000 (Ethernet)
    RX packets 483896 bytes 675174923 (643.8 MiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 216350 bytes 14960789 (14.2 MiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
    device interrupt 53

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 1393 bytes 351319 (343.0 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 1393 bytes 351319 (343.0 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

usb0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.7.2 netmask 255.255.255.252 broadcast 192.168.7.3
    inet6 fe80::f245:daff:fe77:4e16 prefixlen 64 scopeid 0x20<link>
    ether f0:45:da:77:4e:16 txqueuelen 1000 (Ethernet)
    RX packets 21953 bytes 1391081 (1.3 MiB)
    RX errors 0 dropped 9 overruns 0 frame 0
    TX packets 18485 bytes 3697702 (3.5 MiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

usb1: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
```

192.168.7.2:8081 로 접속



ID : farmos

PW : farmosv2@

# FarmOS UI

FarmOS UI Screenshot:

Browser: Famos, 192.168.7.2:8081/index

Left Sidebar:

- 메인
- 대시보드
- 데이터 조회
- 장비제어
- 작동규칙
- 설정

Main Content: 기상 정보

경기 안양시 동안구 관악대로 69

Time	Temperature	Humidity	Weather
30일 오후 6시	7.56°C	41%	구름조금
30일 오후 9시	5.76°C	53%	구름조금
31일 오전 12시	4.35°C	60%	맑음
31일 오전 3시	3.48°C	66%	구름조금
31일 오전 6시	2.63°C	73%	온포림
31일 오전 9시	2.68°C	76%	튼구름

외부 상황: 온실외부 (No Data)

온실 상황: (No Data)

구동기 상황: (No Data)

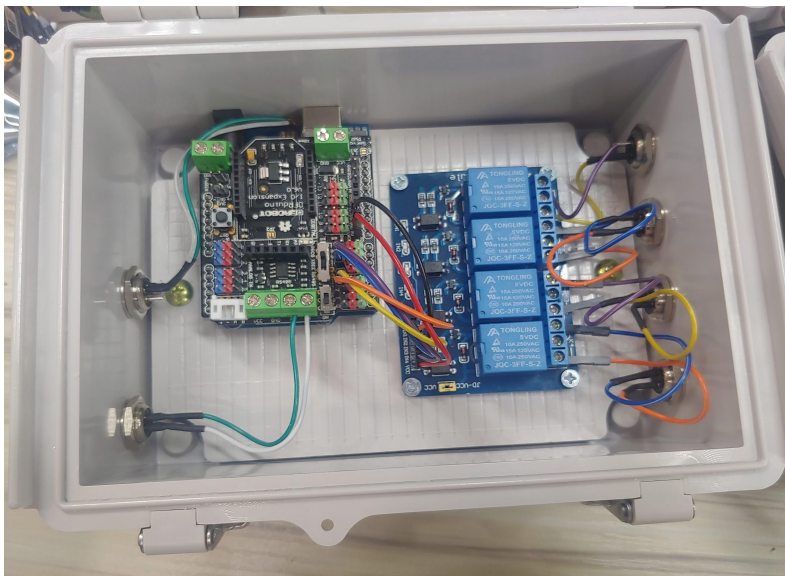
Footer: Open Source Licenses, Copyright © Jinong. All rights reserved.

# 온실 추가

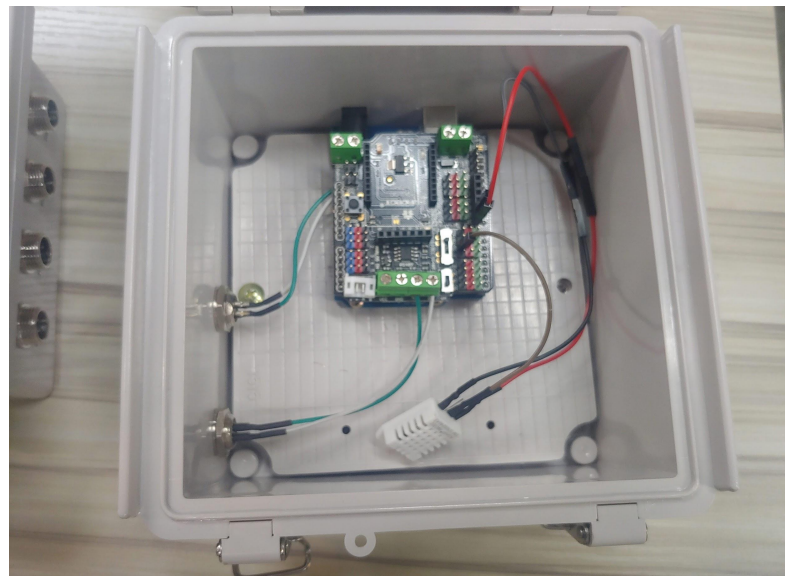
The screenshot displays the Farnos web application interface. The browser address bar shows the URL `192.168.7.2:8081/place`. The application has a sidebar menu on the left with the following items: 메인, 대시보드, 데이터 조회, 장비제어, 작동규칙, 설정, 농장 정보, **구역 정보** (highlighted with a red box), 장비 검색, 장비 수정, 롤 관리, and 타임스팬 관리. The main content area is titled '구역 정보' and contains a '온실 추가' button (highlighted with a red box) and two existing greenhouse entries. The first entry is named '온실외부' with crop '딸기' and harvest date '2020-02-05'. The second entry is named '딸기 농장' with crop '딸기' and harvest date '2020-02-05'. A modal form for adding a new greenhouse is visible on the right, with fields for '이름', '작물', and '재배일', and buttons for '취소' and '저장'.

온실 추가

# KS기반 샘플 장비

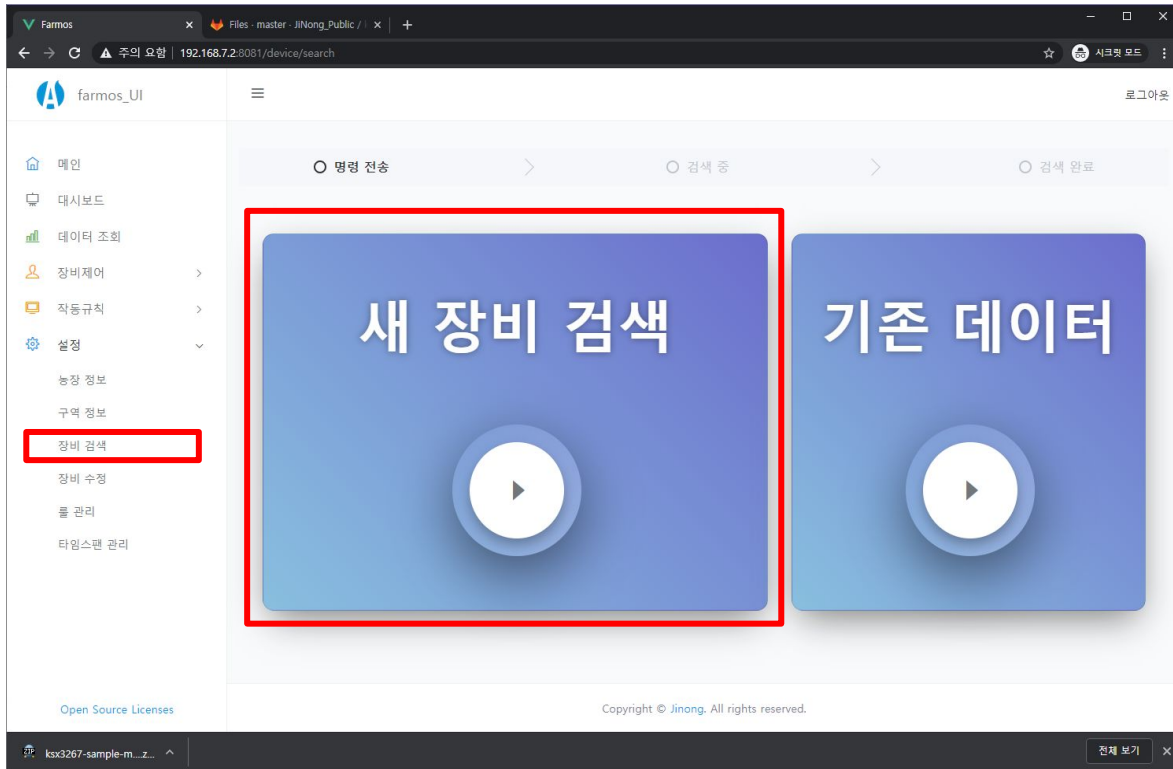


Sample Actuator



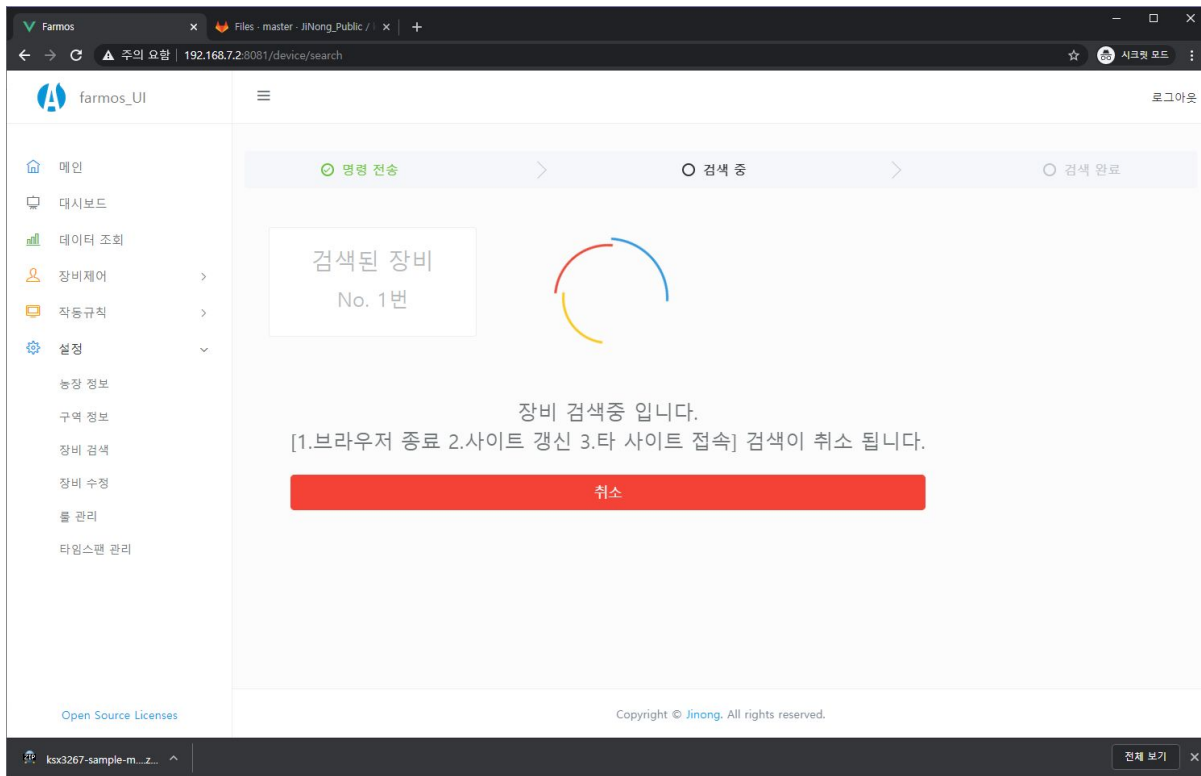
Sample Sensor

# 새 장비 검색



설정 ⇒ 장비 검색  
새 장비 검색

# 새 장비 검색





# 새 장비 검색

Famos

Files · master · JINong\_Public / X

192.168.7.2:8081/device/search

famos\_UI

로그아웃

명령 전송 > 검색 중 > 검색 완료

장비 리스트

검색할 장비

- ☒ 샘플센서노드 NEW
- ☒ 온도센서 NEW
- ☒ 습도센서 NEW

sensor-node

Type

CLASS MODEL NAME

node JN-SN-SAMPLE-001 샘플센서노드

CommSpec

KS-X-3267:2018

read : 40201

opid status

write : 45001

operation opid

여름 : 온도센서 온실 : -

여름 : 습도센서 온실 : -

Class sensor

Type

Open Source Licenses

# 새 장비 검색

Famos

Files - master - JINong\_Public / x +

← → ↻ 주의 요함 | 192.168.7.2:8081/device/search ☆ 로그인 모드

famos\_UI

로그아웃

메인

대시보드

데이터 조회

장비제어 >

작동규칙 >

설정 >

농장 정보

구역 정보

장비 검색

장비 수정

물 관리

타임스팬 관리

장비 리스트

검색된 장비

검색 완료

취소 저장

샘플센서노드

CLASS MODEL NAME

node JN-SN-SAMPLE-001 샘플센서노드

CommSpec

KS-X-3267:2018

read : 40201

opid status

write : 45001

operation opid

이름 습도센서

온실

밭기 농장

온실 외부

밭기 농장

Class sensor

Type

Class sensor

Type

정보를 입력하세요!

이름 습도센서

온실

밭기 농장

온실 외부

밭기 농장

Open Source Licenses

# 데이터 조회

## 데이터 조회

검색 조건

온실: 딸기 농장

기간: 2020-01-30 ~ 2020-01-31

데이터: 온도센서 상태 온도센서 관측치 습도센서 상태 습도센서 관측치

조회

비교 조건

온실: Select

기간: 2020-01-30 ~ 2020-01-30

데이터: Select

다운로드

