

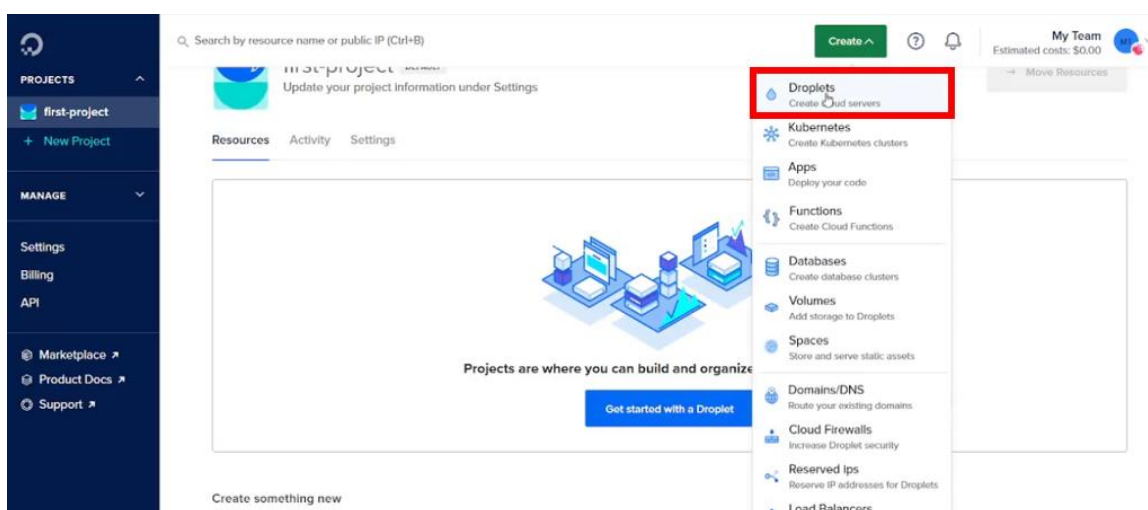
ภาคผนวก ก

คู่มือติดตั้งโปรแกรม

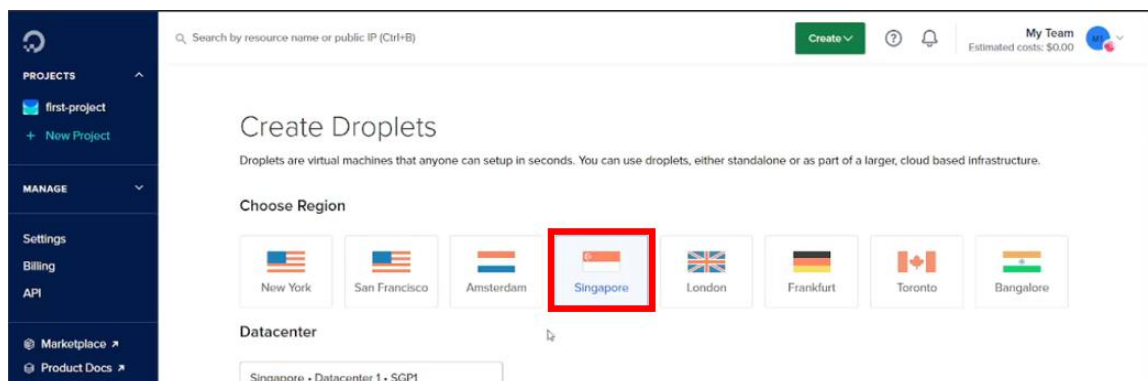
## คู่มือการติดตั้งโปรแกรม

### ติดตั้งโปรแกรมบน DigitalOcean

- เข้าเว็บไซต์ <https://www.digitalocean.com/try/developer-brand>
- เข้าสู่หน้า DigitalOcean Dashboard
- กดเลือก Create จากนั้น เลือก Droplets



- จากนั้นเลือก Region เป็น Singapore



- เลือก Ubuntu เป็น Version 20.04(LTS)x64

The screenshot shows the OpenStack dashboard's OS Marketplace. The 'Ubuntu' icon is highlighted with a red box. Below it, the 'Version' dropdown menu is open, showing '20.04 (LTS) x64' selected, highlighted with a yellow box. The 'Choose Size' section shows the 'Basic' droplet type selected under the 'SHARED CPU' category. The price is listed as \$56.00/month (\$0.083/hour).

- เลือก Droplet Type เป็น Basic (Shared CPU)
- จากนั้นเลือก CPU ที่เป็น Intel NVMe SSD 25 G 1TB transfer

The screenshot shows the 'Droplet Type' selection screen. The 'Basic' droplet type is highlighted with a red box. Below it, the 'CPU options' section shows 'Premium Intel with NVMe SSD' selected, highlighted with a yellow box. The '1 GB / 1 Intel CPU' droplet option is highlighted with a green box. The price is listed as \$7.00/month (\$0.090/hour).

SHARED CPU		DEDICATED CPU			
Basic (Currently selected)		General Purpose	CPU-Optimized	Memory-Optimized	Storage-Optimized

Basic virtual machines with a mix of memory and compute resources. Best for small projects that can handle variable levels of CPU performance, like blogs, web apps and dev/test environments.

CPU options:  Regular with SSD  Premium Intel with NVMe SSD  Premium AMD with NVMe SSD

Price	Configuration
\$7/mo \$0.090/hour	1 GB / 1 Intel CPU 25 GB NVMe SSDs 1000 GB transfer
\$14/mo \$0.021/hour	2 GB / 1 Intel CPU 50 GB NVMe SSDs 2 TB transfer
\$21/mo \$0.031/hour	2 GB / 2 Intel CPUs 60 GB NVMe SSDs 3 TB transfer
\$28/mo \$0.042/hour	4 GB / 2 Intel CPUs 80 GB NVMe SSDs 4 TB transfer
\$56/mo \$0.083/hour	8 GB / 4 Intel CPUs 160 GB NVMe SSDs 5 TB transfer
\$112/mo \$0.167/hour	16 GB / 8 Intel CPUs 320 GB NVMe SSDs 6 TB transfer

- ตั้งค่า Password

Need more disk space? Add a volume with no manual setup.  
Block storage volumes add extra disk space. We automatically format and mount your volume so it's available as soon as your Droplet is, and you can move volumes seamlessly between Droplets at any time. Think of it like a flash drive for your VM.

Choose Authentication Method

- SSH Key  
Connect to your Droplet with an SSH key pair
- Password**  
Connect to your Droplet as the "root" user via password

Create root password \*

#27V6q6pN82s

PASSWORD REQUIREMENTS

- ✓ Must be at least 8 characters long
- ✓ Must contain 1 uppercase letter (cannot be first or last character)
- ✓ Must contain 1 number
- ✓ Cannot end in a number or special character

\$7.00/month  
\$0.0103/hour

CREATE VIA COMMAND LINE [Create Droplet](#)

- ตั้งชื่อ Host Name จากนั้นกด Create Droplet

Advanced Options

Finalize Details

Quantity  
Deploy multiple Droplets with the same configuration.

1 Droplet

Hostname  
Give your Droplets an identifying name you will remember them by.

stg-01

Tags  
Type tags here

Project  
first-project

\$7.00/month  
\$0.0103/hour

CREATE VIA COMMAND LINE [Create Droplet](#)

ปุ่ม Create Droplet

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- ทำการเข้าโปรแกรม Git Bash พิมพ์คำสั่ง \$ ssh root@ copy เลขเวอร์ชันมาวาง
- กดEnter ตอบ yes
- ใช้ Password ที่ตั้งค่าไว้ เพื่อใช้เชื่อมต่อกับโปรเจคที่ต้องการอัปเดต VPS

```

nattie@DESKTOP-H1P491P-MINGW64 ~/Desktop (master)
$ ssh root@139.59.233.32
The authenticity of host '139.59.233.32 (139.59.233.32)' can't be established.
ED25519 key fingerprint is SHA256:Ylqizv0dzwFHkwI+6ww0Se9LaDVs/DvmV27EdFibctM.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '139.59.233.32' (ED25519) to the list of known hosts.
root@139.59.233.32's password:

```

- ลง root@ ด้วยการพิมพ์คำสั่ง curl -fssl get.docker.io | sh

```

root@stg 01: ~
root@stg-01:~# curl -fssl get.docker.io | sh
# Executing docker install script, commit: 4f282167c425347a931ccfd95cc91fab041d414f
+ sh -c apt-get update -qq >/dev/null

```

- ต่อไปการลง Docker Compose
- พิมพ์คำสั่ง  
`sudo -L "https://github.com/docker/compose/releases/download/1.29.2/docker-compose-$(uname -s)-$ $(uname -m)" -o /usr/local/bin/docker-compose`

```

root@stg-01:~# docker ps
root@stg-01:~# docker ps
Command 'dokcer' not found, did you mean:
  command 'docker' from snap docker (20.10.17)
  command 'docker' from deb docker.io (20.10.12-0ubuntu2~20.04.1)
See 'snap info <snapname>' for additional versions.
root@stg-01:~# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED   STATUS    PORTS   NAMES
root@stg-01:~# sudo curl -L "https://github.com/docker/compose/releases/download/1.29.2/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
  0     0     0     0     0     0     0     0     0     0     0     0     0     0     0
100 12.1M 100 12.1M    0     0  14.8M    0     0     0     0     0     0     0     46.9M
root@stg-01:~#

```

- ติดตั้ง Docker ใน vscode โดยใช้คำสั่ง
- `docker run --name sanpukwan-api -p5000:5000 sanpukwan-service-api-dev`  
(p5000 คือ พอร์ตเชื่อมต่อ)

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
PS C:\Users\pattie\Documents\react\mern_project\backend> docker images
REPOSITORY          TAG       IMAGE ID       CREATED        SIZE
sanpukwan-service-api-dev  latest   d4ded1f33118   20 seconds ago  953MB
PS C:\Users\pattie\Documents\react\mern_project\backend> docker run --name sanpukwan-api -p5000:5000 sanpukwan-service-api-dev

> ecommerce@1.0.0 start
> node server.js

Server is working on http://localhost:5000
MongoDB connected with server: ac-slsamoo-shard-00-01.ogd55ci.mongodb.net

```

- จากนั้น Build Docker โดยใช้คำสั่ง `docker build -t dxterous1159/project:sanpukwan-service-appi-dev .`

```
PS C:\Users\pattie\Documents\react\mern_project> cd .\backend\
PS C:\Users\pattie\Documents\react\mern_project\backend> docker build -t dxterous1159/project:sanpukwan-service-api-dev .
[+] Building 1.8s (2/3)
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 367B
-> [internal] load .dockerignore
=> => transferring context: 34B
=> [internal] load metadata for docker.io/library/node:16.14.0
```

- ต่อมาให้ Push Docker ใช้คำสั่ง `docker push dxterous1159/project:sanpukwan-service-appi-dev`

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them
PS C:\Users\pattie\Documents\react\mern_project\backend> docker push dxterous1159/project:sanpukwan-service-api-dev
The push refers to repository [docker.io/dxterous1159/project]
b9231b48faee: Pushing [=====>] 60.42kB
5ceaddcd7ff6: Pushing [=====>] 2.914MB/47.64MB
2ea3c46dacdc: Pushing [=====>] 4.096kB
5f70bf18a086: Pushing 1.024kB
29454a3aff3c: Pushing 3.584kB
4314eadea369: Waiting
0a69ca1954c9: Waiting
996562dd026d: Waiting
23a4b35a343d: Waiting
13e8b36cbbec: Waiting
821bf6371720: Waiting
8d3476a52917: Waiting
40572195ea84: Waiting
024595e1462f: Waiting
```

- เปิด Docker ใช้คำสั่ง `docker pull dxterous1159/project:sanpukwan-service-appi-dev`  
( พิมพ์คำสั่งใน cmd หรือ vscode terminal)

```

root@stg-01: ~
CONTAINER ID   NAME          CPU %     MEM USAGE / LIMIT   MEM %     NET I/O       BLOCK I/O   PIDS
df3867776782  sanpukwan-api  0.33%    63.29MiB / 976.8MiB  6.48%     1.97MB / 388kB  1.17MB / 0B  23
c0910bea5aaa  nginx         0.00%    2.316MiB / 976.8MiB  0.24%     8.93kB / 8.99kB  1.44MB / 0B  2
AC
root@stg-01:~# docker pull dxterous1159/project:sanpukwan-web-dev
sanpukwan-web-dev: Pulling from dxterous1159/project
213ec9aee27d: Pull complete
66aac75c18e5: Pull complete
383ec8ade08a: Pull complete
dabca2e7d79d: Pull complete
a66dad3cfc3: Pull complete
8ecc74c76610: Pull complete
01fa19800af2: Waiting

```

- ใช้คำสั่ง `docker run --name sanpankan-web -p5001:3000 dxterous1159/project:sanpukwan-web-dev`
- จากนั้นสามารถทดสอบเว็บไซต์ได้เลย

```

root@stg-01: ~
root@stg-01:~# docker run --name sanpukwan-web -p5001:3000 dxterous1159/project:sanpukwan-web-dev
> frontend@0.1.0 start
> react-scripts start
(node:29) [DEP_WEBPACK_DEV_SERVER_ON_AFTER_SETUP_MIDDLEWARE] DeprecationWarning: 'onAfterSetupMiddleware' option is deprecated. Please use the 'setupMiddlewares' option.
(Use 'node --trace-deprecation ...' to show where the warning was created)
(node:29) [DEP_WEBPACK_DEV_SERVER_ON_BEFORE_SETUP_MIDDLEWARE] DeprecationWarning: 'onBeforeSetupMiddleware' option is deprecated. Please use the 'setupMiddlewares' option.
Starting the development server...

```