DevOps

- **Explain your CI/CD stages/pipeline. Showing the execution flow among your tools. Briefly describe your work for each stage.**

Frontend CI/CD pipeline by Jenkins

https://github.com/INT222-13-49-129/INT222_Integrated_Project_Front-End/blob/master/Jenkinsfile

```
pipeline {
    agent any

    stages {

        stage('stop and remove container, image') {      ## Stage นี้ใช้เช็คว่ามี Image ที่ต้องการ
            steps {                                      อยู่แล้วหรือไม่ ถ้ามีจะข้าม Stage นี้ไป
                script {                                แต่ถ้าไม่มีจะลบ Container และ Image ชื่อซ้ำออก
                    def imageExists = sh(script: 'docker images -q frontend', returnStdout: true) ==
""
                    println imageExists

                    if( !imageExists ){
                        sh 'docker stop frontend'
                        sh 'docker rm frontend'
                        sh 'docker image rm frontend'
                    }else {
```

```
                    echo 'Skip this stage '
                }
            }
        }
    }

    stage('remove whole data') {              ## ลบ Data บน Jenkins Workspace ทั้งหมด
        steps {
            sh 'rm -rf *'
        }
    }

    stage('git clone') {                      ## Clone secure บน Git เพื่อนำมา Deploy
        steps {
            git branch: 'master',
                credentialsId: 'INT222CFAN',
                url: 'https://github.com/INT222-13-49-129/INT222_Integrated_Project_Front-
End.git'
        }
    }

    stage('(deploy) start contianer') {       ## Deploy ด้วย docker-compose up -d
        steps {
```

```
                sh 'docker-compose up -d'
            }
        }
    }
}
```

Backend CI/CD pipeline by Jenkins

https://github.com/INT222-13-49-129/INT222_Integrated_Project_Back-End/blob/master/Jenkinsfile

```
pipeline {
    agent any

    tools {                          ## ใช้ Nodejs ทำ Test ด้วย newman
        nodejs "nodejs"
    }

    stages {

        stage('stop and remove container, image') {     ## Stage นี้ใช้เช็คว่ามี Image ที่ต้องการ
            steps {                                     อยู่แล้วหรือไม่ ถ้ามีจะข้าม Stage นี้ไป
                script {                                แต่ถ้าไม่มีจะลบ Container และ Image ชื่อซ้ำออก
                    def imageExists = sh(script: 'docker images -q backend', returnStdout: true) ==
""
```

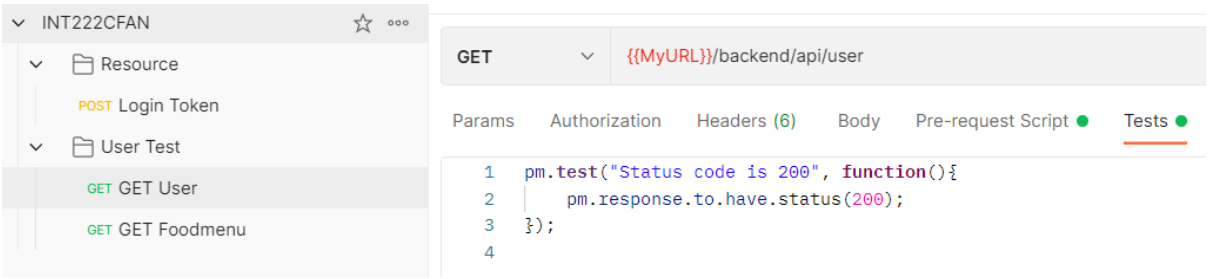
```
            println imageExists


            if( !imageExists ){
                sh 'docker stop backend'
                sh 'docker rm backend'
                sh 'docker image rm backend'
            }else {
                echo 'Skip this stage '
            }
        }
    }
}


stage('remove whole data') {              ## ลบ Data บน Jenkins Workspace ทั้งหมด
    steps {
        sh 'rm -rf *'
    }
}


stage('git clone') {                      ## Clone secure บน Git เพื่อนำมา Deploy
    steps {
        git branch: 'master',
            credentialsId: 'INT222CFAN',
```

```
                url: 'https://github.com/INT222-13-49-129/INT222_Integrated_Project_Back-
End.git'
            }
        }

        stage('(deploy) start contianer') {          ## Deploy ด้วย docker-compose up -d
            steps {
                sh 'docker-compose up -d'
            }
        }

        stage('test') {                              ## Install Test case ทุกตัว จาก postman collection
            steps {                                  ที่ทำบน postman save ลงเครื่อง แล้ว up ขึ้น Git
                sh 'node --version '
                sh 'npm --version '
                sh 'npm install -g newman'
                sh 'newman run postman/postmantest/INT222CFAN.postman_collection.json'
            }
        }

    }
}
```

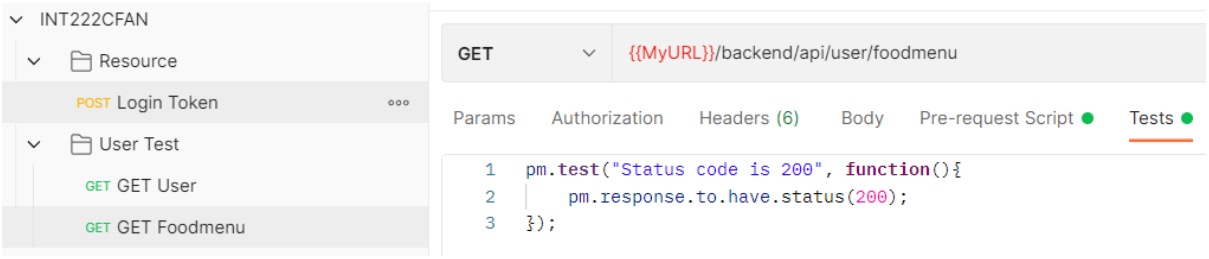
ในส่วนของ Postman test

1. Login Token test

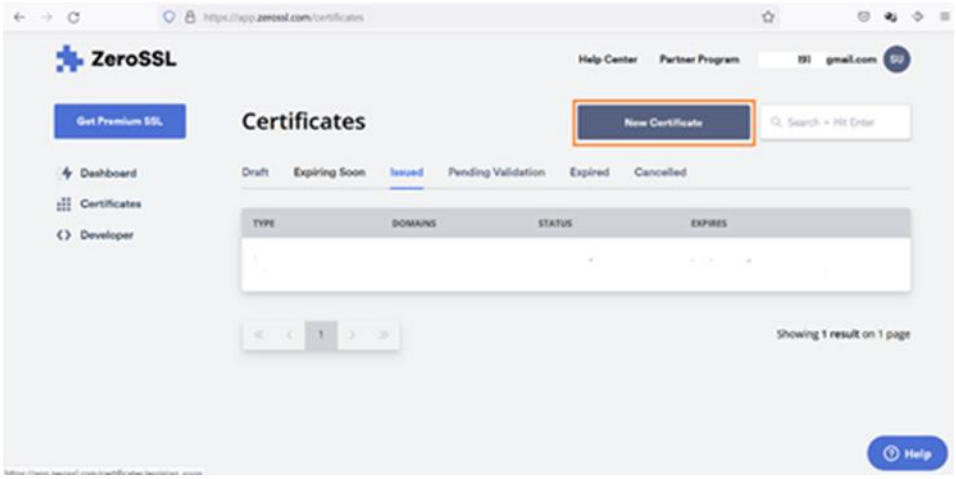
2. Get User test



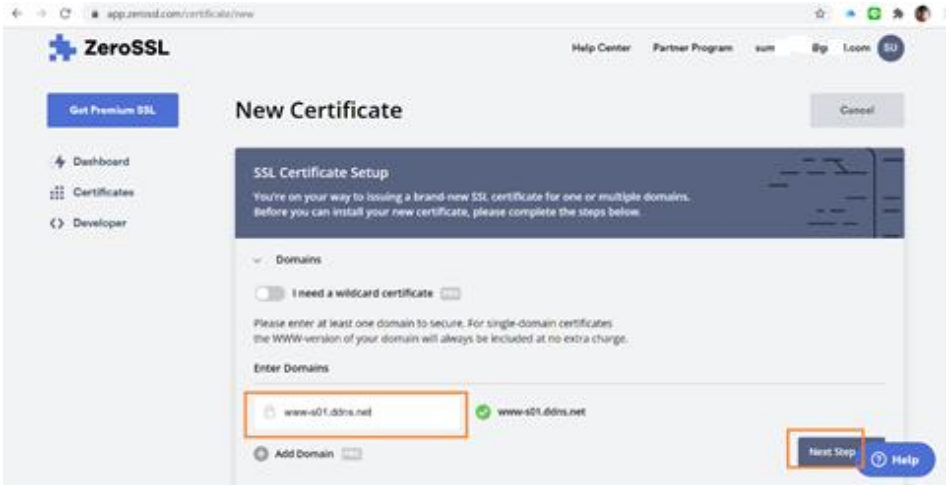
3. Get Foodmenu test



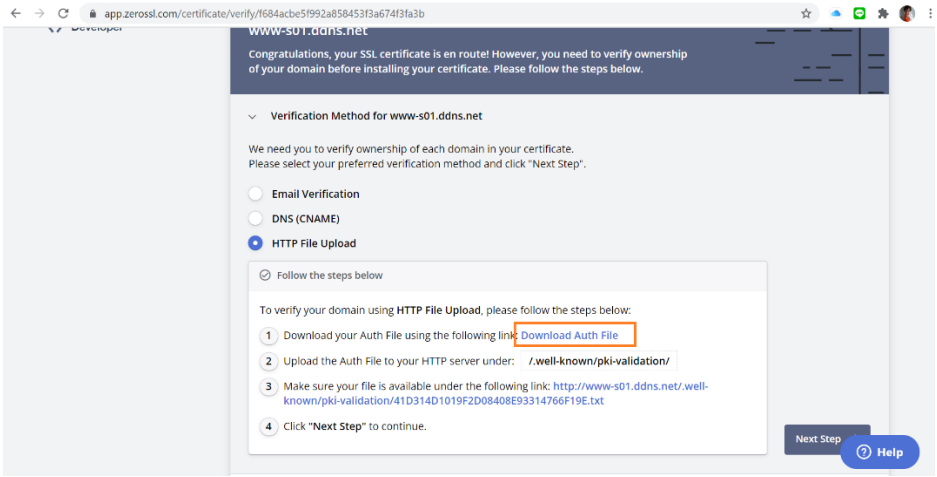
- **Describe your work for HTTPS.**

1. Go to URL: https://app.zerossl.com/signup
2. 

3. ใส่ Domain name ลงไป

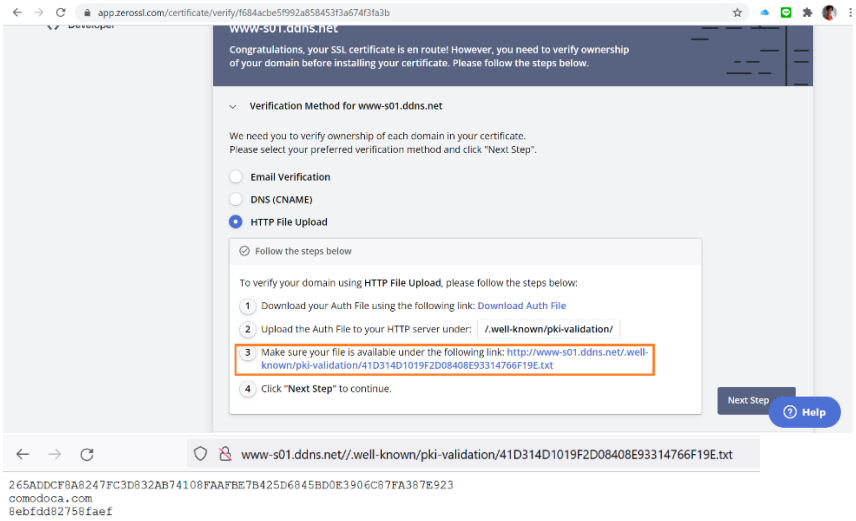


4. Download ตัว Auth file เพื่อตรวจเช็คว่า Dns ใช้งานได้



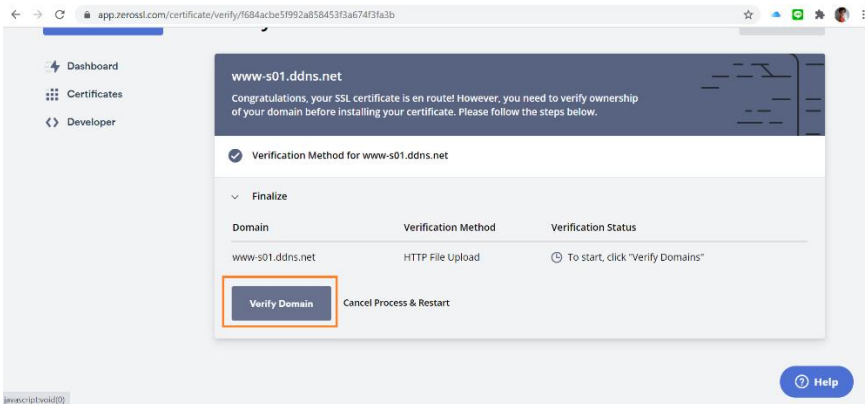
5. นำ Auth file ไปเก็บบน VM

6. เช็คว่าเจอ Auth file หรือไม่

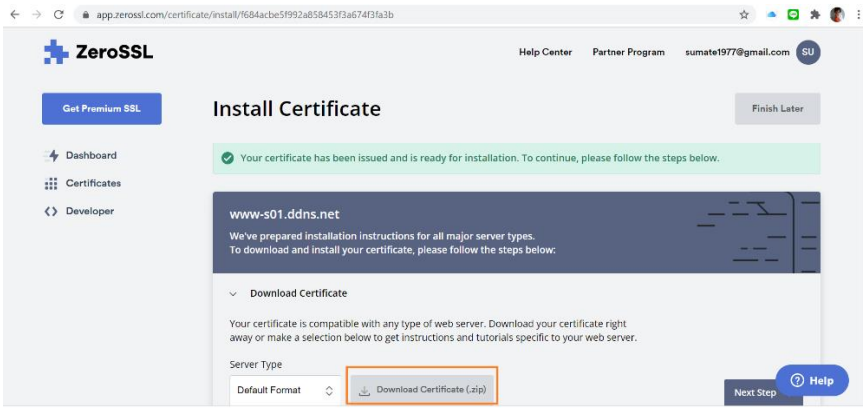


7.

8. จดใบ Certificate ได้เลย



9. โหลดใบ Certificate เพื่อนำมายืนยันเว็ปด้วยวิธีการ นำไปวางไว้บน VM



41D314D1019F2D08408E93314766F19E

ca_bundle

certificate

private.key

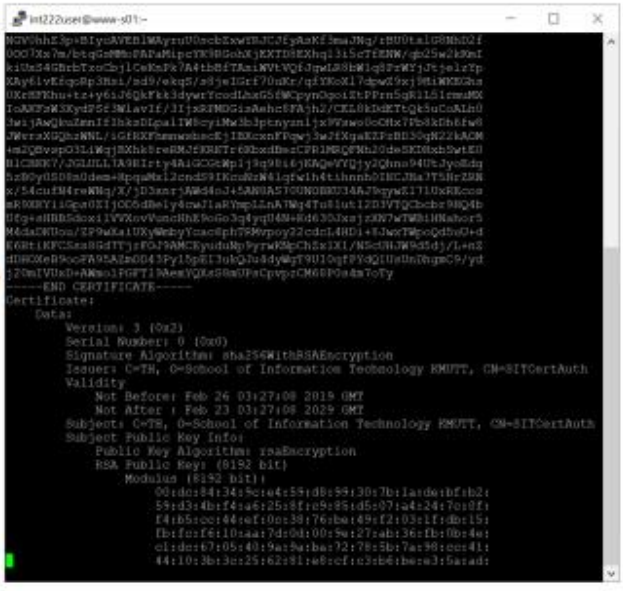
www-s01.ddns.net

sudo vi /home/dohttps/nginx/ssl/www-s01.key

Copy & Paste

sudo vi /home/dohttps/nginx/ssl/www-s01.crt

Copy & Paste



10. หลังจากนั้น config ตัว default.conf เพื่อใส่ตัว proxy ลงไปและ redirect Public IP มาที่ Https

```
server {       #Monitor port 443
    listen     443 ssl;
    server_name  cfan.ddnsking.com;              #domain name

    # Add ssl
    ssl on;         #If you force HTTP access, this line should be opened
    ssl_certificate /ssl /cfan.crt;   #The crt file storage path of nginx for ss>
    ssl_certificate_key /ssl /cfan.key;       #Storage path of nginx key file of >

    ssl_session_cache     shared:SSL:1m;
    ssl_session_timeout  5m;

     # Specify the password as a format supported by openssl
     ssl_protocols  SSLv2 SSLv3 TLSv1.2;

     ssl_ciphers  HIGH:!aNULL:!MD5;  # Password encryption method
     ssl_prefer_server_ciphers  on;   # Server passwords that rely on SSLv3 and>

     # Define the index directory and name of the first page
     location / {
                    proxy_set_header Host $host;
```

```
            proxy_set_header X-Real-IP $remote_addr;
            proxy_pass http://172.20.0.2;
        }
     location /backend/ {
            proxy_set_header Host $host;
            proxy_set_header X-Real-IP $remote_addr;
            proxy_pass http://172.20.0.3:3000/;
        }

    #Redirect error page to / 50x.html
    error_page   500 502 503 504  /50x.html;
    location = /50x.html {
        root   /usr/share/nginx/html;
    }
}
server{   #Monitor port 80
        listen 80;
        server_name cfan.ddnsking.com;
          rewrite ^(.*) https://$host$1 permanent;       # All connections that ar>
}
server{
        listen 443;
        server_name 20.212.82.102;
```

```
        return 302 $scheme://cfan.ddnsking.com$request_uri;
}
```

11. สร้าง compose เพื่อสร้าง environment ให้ Https

```
version: '3'
services:
 HttpsProxy:
    container_name: HttpsProxy
    image: nginx
    volumes:
        - /home/dohttps/nginx/config/nginx.conf:/etc/nginx/nginx.conf/:rw
        - /home/dohttps/nginx/config/conf.d/default.conf:/etc/nginx/conf.d/default.conf:rw
        - /home/dohttps/nginx/logs:/var/log/nginx/:rw
        - /home/dohttps/nginx/ssl:/ssl/:rw
    ports:
        - "80:80"
        - "443:443"
    networks:
       allnetwork:
          ipv4_address: 172.20.0.5
networks:
  default:
    external:
```

```
    name: allnetwork

allnetwork:

  external: true
```