

1.

EC2에 JAR 파일 업로드(EC2 클라우드 컴퓨터)에서 Java 프로젝트를 실행하려면 JAR파일이 필요하기 때문에 JAR파일을 내 로컬컴퓨터에서 만들어서 EC@에 업로드

- jar 파일 : java 프로젝트를 실행할수 있도록 압축한 파일

- scp : secyre Copy Protocol , 파일을 보낼때 사용하는 명령어  
``sh

```
scp -i "/c/Users/leeyu/web_2025_version1.pem" "/c/Users/leeyu/portfolio/demo_spring_Vue/Ai-Diary-server/target/demo_backend-0.0.1-SNAPSHOT.jar" ubuntu@15.165.179.197:/home/ubuntu/
```

```
Lee@YL_Min MINGW64 ~ (main)
$ scp -i "/c/Users/leeyu/web_2025_version1.pem" "/c/Users/leeyu/portfolio/demo_spring_Vue/Ai-Diary-server/target/demo_backend-0.0.1-SNAPSHOT.jar" ubuntu@15.165.179.197:/home/ubuntu/
demo_backend-0.0.1-SNAPSHOT.jar      100%   39MB   27.9MB/s   00:01
```

2.

EC2에 SSH 접속 - EC2는 클라우드 컴퓨터이므로 직접 키보드와 마우스로 조작 할 수 없음 , 대신 SSH(Secure Shell)로 이용해 컴퓨터에서 명령어를 입력

``sh

```
ssh -i "/c/Users/leeyu/web_2025_version1.pem" ubuntu@3.34.90.124
```

```
Lee@YL_Min MINGW64 ~ (main)
$ ssh -i "C:\Users\leeyu\web_2025_version1.pem" ubuntu@15.165.179.197
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1021-aws x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/pro

System information as of Fri Feb 21 03:01:52 UTC 2025

System load:  0.0               Processes:    111
Usage of /:   29.8% of 6.71GB   Users logged in: 1
Memory usage: 25%              IPv4 address for enx0: 172.31.41.221
Swap usage:  0%
```

\*\*\*

3.

```sh

ls -lh /home/ubuntu/

\*\*\*

```
ls: cannot access '/home/ubuntu/': No such file or directory
ubuntu@ip-172-31-41-221:~$ ls -lh /home/ubuntu/
total 39M
-rw-r--r-- 1 ubuntu ubuntu 39M Feb 21 03:01 demo_backend-0.0.1-SNAPSHOT.jar
ubuntu@ip-172-31-41-221:~$
```

JAR 파일 실행 권한 부여와 JAVA설치 - chmod +x 명령어로 실행 권한 추가

- chmod : 파일 실행 권한을 추가하는 명령어

```sh

chmod +x /home/ubuntu/demo\_backend-0.0.1-SNAPSHOT.jar

\*\*\*

- java -jar 실행시 command java not found 오류 발생한다면 java 설치 필요

```
ubuntu@ip-172-31-41-221:~$
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

*** System restart required ***
Last login: Fri Feb 21 03:02:02 2025 from 122.34.65.149
ubuntu@ip-172-31-41-221:~$ chmod +x /home/ubuntu/demo_backend-0.0.1-SNAPSHOT.jar
ubuntu@ip-172-31-41-221:~$ java -version
Command 'java' not found, but can be installed with:
sudo apt install openjdk-17-jre-headless # version 17.0.12+7-1ubuntu2~24.04, or
sudo apt install openjdk-21-jre-headless # version 21.0.4+7-1ubuntu2~24.04
sudo apt install default-jre # version 2:1.17-75
sudo apt install openjdk-11-jre-headless # version 11.0.24+8-1ubuntu3~24.04.1
sudo apt install openjdk-8-jre-headless # version 8u422-b05-1~24.04
sudo apt install openjdk-19-jre-headless # version 19.0.2+7-4
sudo apt install openjdk-20-jre-headless # version 20.0.2+9-1
sudo apt install openjdk-22-jre-headless # version 22~22ea-1
ubuntu@ip-172-31-41-221:~$ sudo apt update
Hit:1 http://ap-northeast-2.ec2.archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://ap-northeast-2.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://ap-northeast-2.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
81 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

```sh

sudo apt update

sudo apt install openjdk-17-jre-headless -y

java -version

```

```
ubuntu@ip-172-31-41-221: ~  
Scanning processes...  
Scanning candidates...  
Scanning linux images...  
  
Running kernel seems to be up-to-date.  
  
Restarting services...  
  
Service restarts being deferred:  
/etc/needrestart/restart.d/dbus.service  
systemctl restart getty@tty1.service  
systemctl restart networkd-dispatcher.service  
systemctl restart serial-getty@ttyS0.service  
systemctl restart systemd-logind.service  
systemctl restart unattended-upgrades.service  
  
No containers need to be restarted.  
  
No user sessions are running outdated binaries.  
  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
ubuntu@ip-172-31-41-221:~$ java -version  
openjdk version "17.0.14" 2025-01-21  
OpenJDK Runtime Environment (build 17.0.14+7-Ubuntu-124.04)  
OpenJDK 64-Bit Server VM (build 17.0.14+7-Ubuntu-124.04, mixed mode, sharing)  
ubuntu@ip-172-31-41-221:~$
```

5. JAR파일 실행해서 EC2서버를 띄운다.

```sh

nohup java -jar /home/ubuntu/demo\_backend-0.0.1-SNAPSHOT.jar > log.txt 2>&1 &

```

- nohup : SSH를 종료해도 프로그램 계속 실행된 실행 ,  
SSH 연결이 끊겨도 계속 실행되도록 하기 위해 백그라운드 실행이 필요

```

> deploy\_log.txt 2>&1 &

```

실행 로그를 deploy\_log.txt 파일에 저장

```
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
ubuntu@ip-172-31-41-221:~$ java -version  
openjdk version "17.0.14" 2025-01-21  
OpenJDK Runtime Environment (build 17.0.14+7-Ubuntu-124.04)  
OpenJDK 64-Bit Server VM (build 17.0.14+7-Ubuntu-124.04, mixed mode, sharing)  
ubuntu@ip-172-31-41-221:~$ nohup java -jar /home/ubuntu/demo_backend-0.0.1-SNAPSHOT.jar >  
deploy_log.txt 2>&1 &  
[1] 12994  
ubuntu@ip-172-31-41-221:~$ |
```

```
```sh
ps aux | grep demo_backend-0.0.1-SNAPSHOT.jar
```
```

제대로 실행되고 있는지 확인가능

```
[1] 12994
ubuntu@ip-172-31-41-221:~$ ps aux | grep demo_backend-0.0.1-SNAPSHOT.jar
ubuntu      12994  9.5 18.4 2345936 180784 pts/1    Sl   03:57   0:11 java -jar /home/ubuntu/
demo_backend-0.0.1-SNAPSHOT.jar
ubuntu      13031  0.0  0.2    7104   2048 pts/1    S+   03:59   0:00 grep --color=auto demo_
backend-0.0.1-SNAPSHOT.jar
ubuntu@ip-172-31-41-221:~$
```

ps aux : 실행중인 프로세스 목록 확인  
grep demo\_backend : 실행중인 필터링

도메인(Domain) 설정 - IP주소를 사이트로 기억하기 쉽도록 이름을 사용

DNS(도메인 네임 시스템)는 도메인과 IP 주소를 연결해주는 시스템이다. 도메인은 단순한 이름이고 실제로 웹사이트가 동작하려면 IP주소가 필요하다 .

(도메인은 가비아에서 구입, 네임서버 변경 필요)

```
ubuntu@ip-172-31-41-221:~$ ps aux | grep demo_backend-0.0.1-SNAPSHOT.jar
ubuntu      12994  9.5 18.4 2345936 180784 pts/1    Sl   03:57   0:11 java -jar /home/ubuntu/
demo_backend-0.0.1-SNAPSHOT.jar
ubuntu      13031  0.0  0.2    7104   2048 pts/1    S+   03:59   0:00 grep --color=auto demo_
backend-0.0.1-SNAPSHOT.jar
ubuntu@ip-172-31-41-221:~$ sudo apt install net-tools -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  net-tools
0 upgraded, 1 newly installed, 0 to remove and 81 not upgraded.
Need to get 204 kB of archives.
After this operation, 811 kB of additional disk space will be used.
Get:1 http://ap-northeast-2.ec2.archive.ubuntu.com/ubuntu noble/main amd64 net-tools amd64
  2.10-0.1ubuntu4 [204 kB]
Fetched 204 kB in 0s (8682 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 71953 files and directories currently installed.)
Preparing to unpack .../net-tools_2.10-0.1ubuntu4_amd64.deb ...
Unpacking net-tools (2.10-0.1ubuntu4) ...
Setting up net-tools (2.10-0.1ubuntu4) ...
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Running kernel seems to be up-to-date.

Restarting services...

Service restarts being deferred:
/etc/needrestart/restart.d/dbus.service
systemctl restart getty@tty1.service
systemctl restart networkd-dispatcher.service
systemctl restart serial-getty@ttyS0.service
systemctl restart systemd-logind.service
systemctl restart unattended-upgrades.service

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-41-221:~$ curl http://checkip.amazonaws.com
15.165.179.197
```

```
```sh
sudo apt install net-tools -y
```

curl http://checkip.amazonaws.com

```
ubuntu@ip-172-31-41-221: ~  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
ubuntu@ip-172-31-41-221:~$ curl http://checkip.amazonaws.com  
15.165.179.197  
ubuntu@ip-172-31-41-221:~$ sudo nano /etc/nginx/sites-available/default  
ubuntu@ip-172-31-41-221:~$ cat /etc/nginx/sites-available/default  
##  
# You should look at the following URL's in order to grasp a solid understanding  
# of Nginx configuration files in order to fully unleash the power of Nginx.  
# https://www.nginx.com/resources/wiki/start/  
# https://www.nginx.com/resources/wiki/start/topics/tutorials/config_pitfalls/  
# https://wiki.debian.org/Nginx/DirectoryStructure  
#  
# In most cases, administrators will remove this file from sites-enabled/ and  
# leave it as reference inside of sites-available where it will continue to be  
# updated by the nginx packaging team.  
#  
# This file will automatically load configuration files provided by other  
# applications, such as Drupal or Wordpress. These applications will be made  
# available underneath a path with that package name, such as /drupal8.  
#  
# Please see /usr/share/doc/nginx-doc/examples/ for more detailed examples.  
##  
# Default server configuration  
#  
server {  
    listen 80 default_server;  
    listen [::]:80 default_server;  
  
    # SSL configuration  
    #  
    # listen 443 ssl default_server;  
    # listen [::]:443 ssl default_server;  
    #  
    # Note: You should disable gzip for SSL traffic.  
    # See: https://bugs.debian.org/773332  
    #  
    # Read up on ssl_ciphers to ensure a secure configuration.  
    # See: https://bugs.debian.org/765782  
    #  
    # Self signed certs generated by the ssl-cert package  
    # Don't use them in a production server!  
    #  
    # include snippets/snakeoil.conf;  
  
    root /var/www/html;  
  
    # Add index.php to the list if you are using PHP  
    index index.html index.htm index.nginx-debian.html;  
  
    server_name justsaying.co.kr;  
  
    # backend SpringBoot  
  
    location /api/ {  
        # First attempt to serve request as file, then  
        # as directory, then fall back to displaying a 404.  
        proxy_pass http://15.165.179.197:8080;  
        proxy_set_header Host $host;  
        proxy_set_header X-Real-IP $remote_addr;  
        proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;  
        # try_files $uri $uri/ =404;  
    }  
  
    # frontend Vue  
    location / {  
        proxy_pass http://web-2025-version1.s3-website.ap-northeast-2.amazonaws.co  
    }  
    # pass PHP scripts to FastCGI server  
    #location ~ \.php$ {  
    #    include snippets/fastcgi-php.conf;  
    #  
    #    # With php-fpm (or other unix sockets):  
    #    fastcgi_pass unix:/run/php/php7.4-fpm.sock;  
    #    # With php-cgi (or other tcp sockets):  
    #    fastcgi_pass 127.0.0.1:9000;  
    #}  
  
    # deny access to .htaccess files, if Apache's document root  
    # concurs with nginx's one  
    #  
    #location ~ /\.ht {  
    #    deny all;  
    #}  
}  
  
# Virtual Host configuration for example.com  
#  
# You can move that to a different file under sites-available/ and symlink that  
# to sites-enabled/ to enable it.  
#  
#server {  
#    listen 80;  
#    listen [::]:80;  
#  
#    server_name example.com;  
#  
#    root /var/www/example.com;  
#    index index.html;  
#}
```

net-tools : 네트워크 도구 ,

curl http://checkip.amazonaws.com : EC2의 공인 IP확인  
(탄력적 IP와 같은지 확인, 다르다면 A레코드 변경 필요)

EC2의 공인 IP를 확인 할 수 있다.

```

```nginx
server {
    listen 80;
    server_name justsaying.co.kr;

    # 백엔드(Spring Boot) 요청 처리
    location /api/ {
        proxy_pass http://15.165.179.197:8080;
        proxy_set_header Host $host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-For
$proxy_add_x_forwarded_for;
    }

    # 프론트엔드(Vue) 요청 처리 - AWS S3에서 Vue 가져오기
    location / {
        proxy_pass http://web-2025-version1.s3-website.ap-
northeast-2.amazonaws.com;
    }
}
```

```

server\_name justsaying.co.kr; 도메인 적용  
proxy\_pass:  
/api/ :EC2(백엔드) 요청,  
/ : S3(프론트엔드) 요청

```
ubuntu@ip-172-31-41-221: ~  
Active: active (running) since Fri 2025-02-21 04:19:03 UTC; 16s ago  
Docs: man:nginx(8)  
Process: 13251 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_proces>  
Process: 13255 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (co>  
Main PID: 13257 (nginx)  
Tasks: 2 (limit: 1130)  
Memory: 2.1M (peak: 2.3M)  
CPU: 10ms  
CGroup: /system.slice/nginx.service  
└─13257 "nginx: master process /usr/sbin/nginx -g daemon on; master_>  
└─13258 "nginx: worker process"  
Feb 21 04:19:03 ip-172-31-41-221 systemd[1]: Starting nginx.service - A high perf>  
Feb 21 04:19:03 ip-172-31-41-221 systemd[1]: Started nginx.service - A high perfo>  
ubuntu@ip-172-31-41-221:~$ nslookup justsaying.co.kr  
Server: 127.0.0.53  
Address: 127.0.0.53#53  
Non-authoritative answer:  
Name: justsaying.co.kr  
Address: 15.165.179.197  
ubuntu@ip-172-31-41-221:~$
```

```sh

sudo systemctl restart nginx

sudo systemctl status nginx

nslookup justsaying.co.kr

```

EC2(Elastic Compute Cloud) : 인터넷에 있는 컴퓨터(서버)

S3(Simple Storage Service) : 파일 저장소

\* EC2 서버에서 모든 파일을 저장하면 서버가 느려지기 때문에 S3에 파일을 올려두고 필요할때만 가져오면 더 빠르고 안전하다.

\* s3 (vue)

<http://web-2025-version1.s3-website.ap-northeast-2.amazonaws.com/>

\* ec2(server)

<http://3.34.90.124:8080> 으로 들어가면 성공

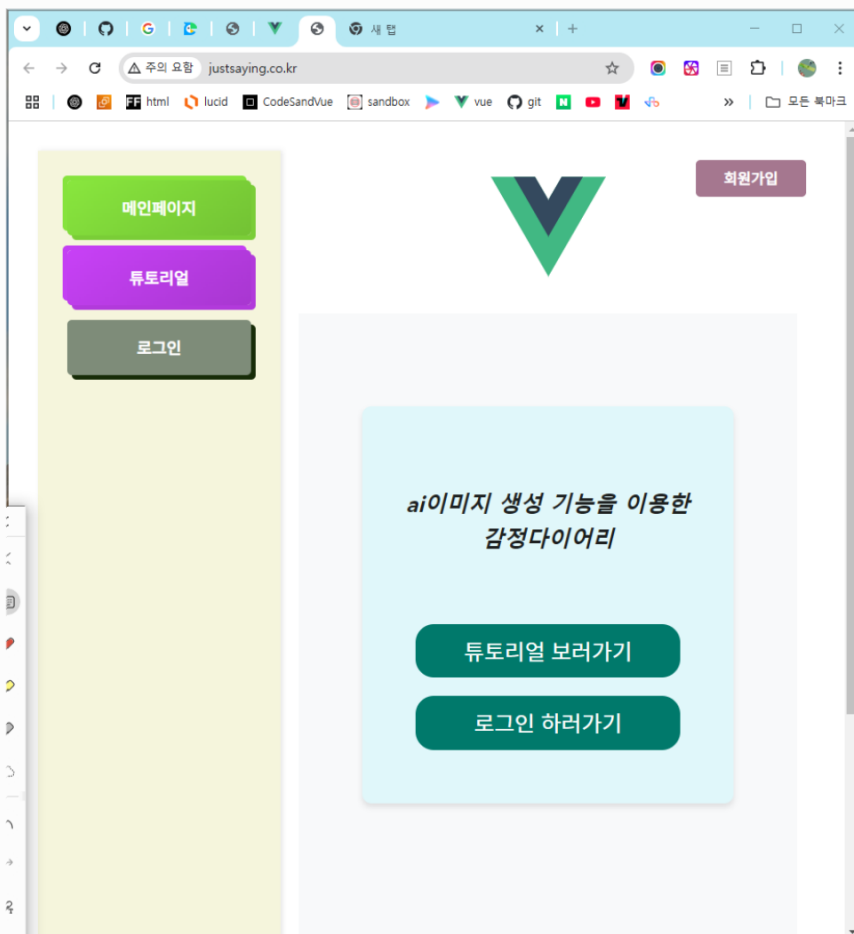
탄력적 ip 15.165.179.197

- \* Nginx가 80번 포트에서 사용자의 요청을 받고
- \*vue 프론트엔드는 s3에서 가져오고
- spring boot 백엔드는 EC2 (8080포트)로 연결

Nginx가 모든 요청을 받아서 프론트엔드는 S3, 백엔드는 EC2로 보낸다.

- \* 퍼블릭 IP를 사용하다 다시 가동하면 ip가 바뀌는 문제때문에  
탄력적 ip 부여  
출력 결과가 탄력적 IP(Elastic IP)와 동일해야 함!  
만약 다르면 A 레코드를 탄력적 IP로 변경해야 함.

- \* <http://justsaying.co.kr> 들어가면 화면이 뜨면 성공





\* 실행한 명령어 자체를 저장하는 방법 history >  
git\_commands.txt\*