03_LINUX_APM/Tomcat

- **APM(Apache + PHP + MySQL)**

1. CentOS APM/Tomcat 설치

1.1 Apache 설치

- 설치되어 있는지 확인

```
$ rpm -qa|grep httpd
```

- 설치 진행

```
$ yum -y install httpd
```

- 버전 확인

```
$ httpd -v
```

- Apache 시작

```
$ service httpd start
```
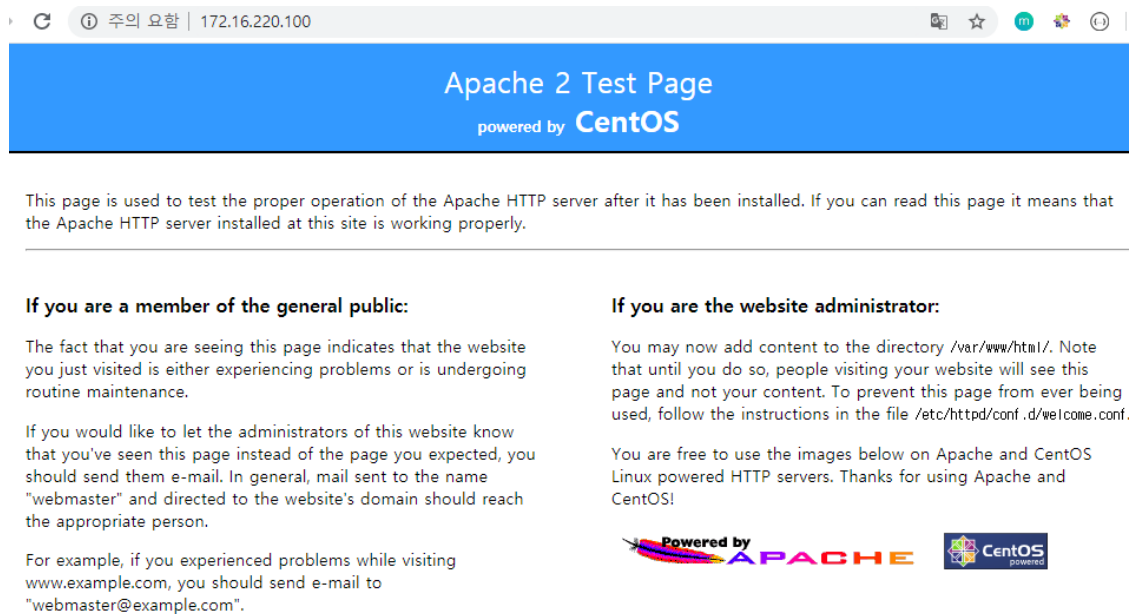
- Server 실행 확인

```
$ ps -ef|grep httpd
```

```
[root@localhost 바탕화면]# ps -ef| grep httpd
root       8626       1   0 08:54 ?        00:00:00 /usr/sbin/httpd
apache     8629    8626   0 08:54 ?        00:00:00 /usr/sbin/httpd
apache     8630    8626   0 08:54 ?        00:00:00 /usr/sbin/httpd
apache     8631    8626   0 08:54 ?        00:00:00 /usr/sbin/httpd
apache     8632    8626   0 08:54 ?        00:00:00 /usr/sbin/httpd
apache     8633    8626   0 08:54 ?        00:00:00 /usr/sbin/httpd
apache     8634    8626   0 08:54 ?        00:00:00 /usr/sbin/httpd
apache     8635    8626   0 08:54 ?        00:00:00 /usr/sbin/httpd
apache     8636    8626   0 08:54 ?        00:00:00 /usr/sbin/httpd
root       8668    8594   0 08:56 pts/0    00:00:00 grep httpd
```

- 확인을 하기 위해서 방화벽 해제

```
$ service iptables stop
```

- 브라우저에 CentOS IP를 입력 후 서버 확인

Apache 2 Test Page
powered by CentOS

This page is used to test the proper operation of the Apache HTTP server after it has been installed. If you can read this page it means that the Apache HTTP server installed at this site is working properly.

If you are a member of the general public:

The fact that you are seeing this page indicates that the website you just visited is either experiencing problems or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting www.example.com, you should send e-mail to "webmaster@example.com".

If you are the website administrator:

You may now add content to the directory /var/www/html/. Note that until you do so, people visiting your website will see this page and not your content. To prevent this page from ever being used, follow the instructions in the file /etc/httpd/conf.d/welcome.conf.

You are free to use the images below on Apache and CentOS Linux powered HTTP servers. Thanks for using Apache and CentOS!

1.2 PHP 설치

- 설치되어 있는지 확인

```
$ rpm -qa|grep php
```

- 설치 진행

```
$ yum install php php-mysql
```

- 설치 확인
  - phpinfo.php 생성

    ```
    $ sudo vi /var/www/html/phpinfo.php
    ```

  - phpinfo.php 작성

    ```php
    <?php
        phpinfo();
    ?>
    ```

  - 브라우저에 IP/phpinfo.php 접속

    172.16.220.100/phpinfo.php

    PHP Version 5.3.3

System	Linux localhost.localdomain 2.6.32-754.25.1.el6.x86_64 #1 SMP Mon Dec 23 15:19:53 UTC 2019 x86_64
Build Date	Nov 1 2019 12:28:29

1.3 MySQL 설치

- 설치되어 있는지 확인

```
$ rpm -qa | grep ^mysql-server
```

- 설치 진행

```
$ yum install mysql-server
```

- 서비스 시작

```
$ service mysqld start
```

- MySQL 패스워드 지정

```
$ /usr/bin/mysql_secure_installation
```

- MySQL 접속 및 databases 확인

```
$ mysql -u root -p

$ show databases;
```

```
[root@localhost etc]# mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 10
Server version: 5.1.73 Source distribution

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
```

1.4 Tomcat 설치

- **Tomcat ?**
  - 동적(Dynamic)인 웹을 만들기 위한 웹 컨테이너, 서블릿 컨테이너라고 불리며, 웹서버에서 정적으로 처리해야할 데이터를 제외한 JSP, ASP, PHP 등은 웹 컨테이너(Tomcat)에게 전달한다.
- 톰켓을 설치하기 전에 앞서 **포트 충돌 방지**를 위해서 Apache 서버를 stop 시켜주자.

```
$ service httpd stop
```

- 설치 확인

```
$ yum list installed | grep tomcat
```

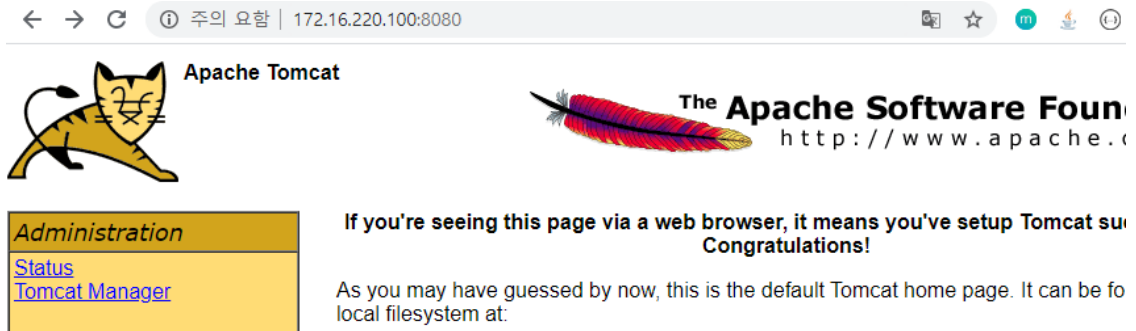- 설치 진행

```
$ yum install -y tomcat*
```

- 서비스 시작

```
$ netstat -tnlp

$ service tomcat6 status    # 상태 확인

$ service tomcat6 start     # 서비스 시작
```

- 브라우저에 IP/포트

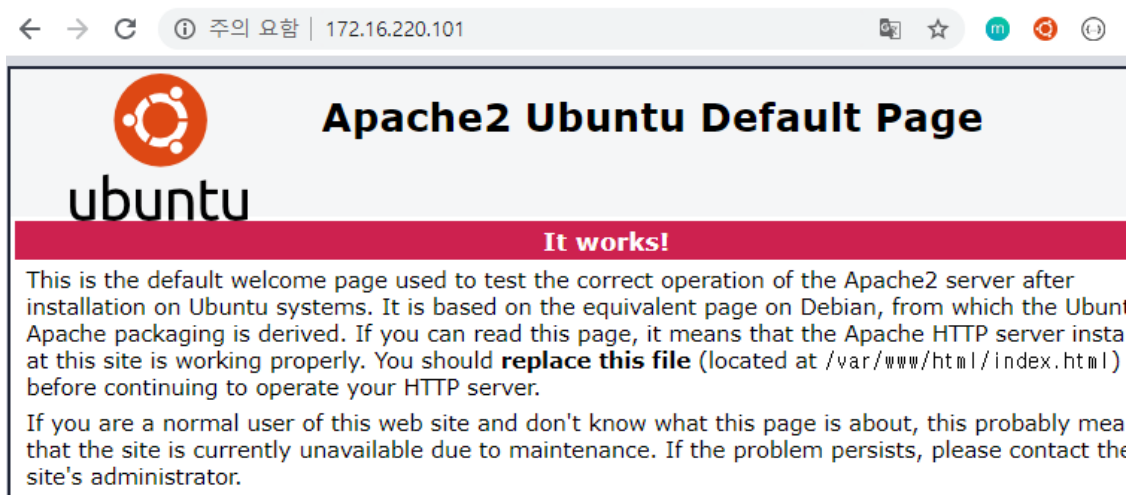# 2. Ubuntu APM/Tomcat 설치

2.1 Apache 설치

- 설치

```
$ sudo apt install apache2
```

- 설치 확인

```
$ apache2 -v
```

- 브라우저에서 ubuntu IP를 입력 후 서버 확인

2.2 PHP 설치

- 설치

```
$ sudo apt install php php-mysql

$ sudo apt install libapache2-mod-php7.0

$ sudo a2enmod php7.0
```
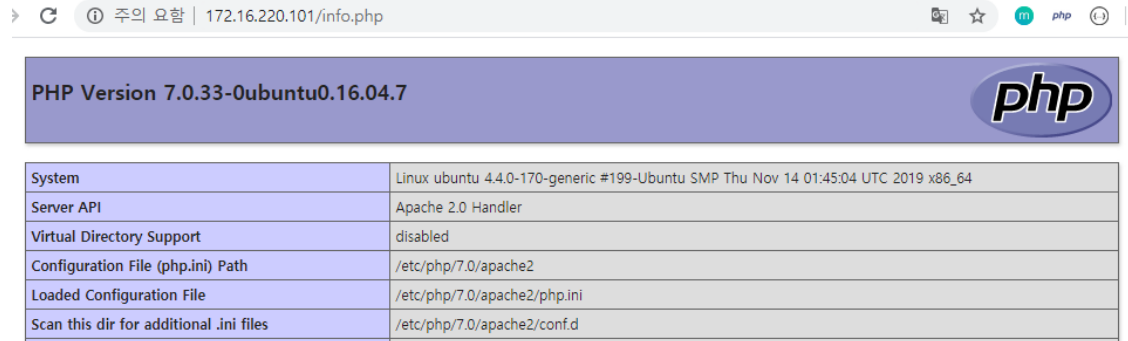
- 설치 확인

```
$ php -v
```

- 서버 재시작 또는 재부팅

```
$ sudo systemctl restart apache2.service
or
$ reboot
```

- 서버 확인

```
$ sudo vi /var/www/html/info.php
```

```php
<?php
    phpinfo();
?>
```
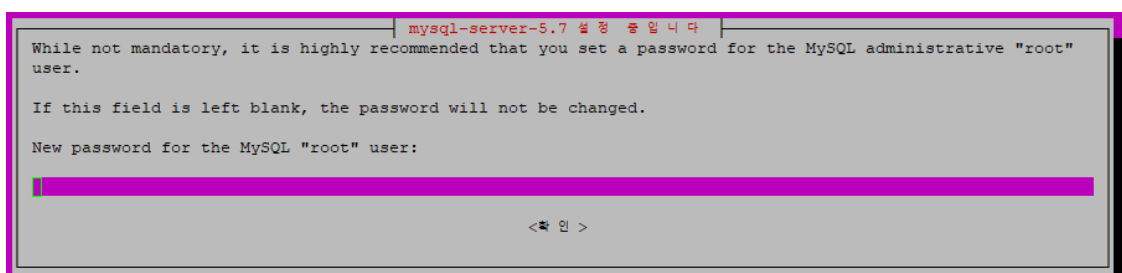
- 브라우저에 IP 입력후 info.php 입력

- 위의 사진같이 출력되면 성공이다.

2.3 MySQL 설치

- 설치

```
$ sudo apt-get install mysql-server
```

- 설치가 완료되면 MySQL root계정의 비밀번호를 새로 입력하라는 매시지가 나온다.

- 한번 더 입력하면 완료된다.

2.4 Tomcat 설치

- 설치

```
$ sudo apt-get install tomcat8
```
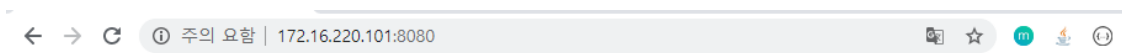
- 버전 확인

```
$ sudo /usr/share/tomcat8/bin/version.sh
```

- 방화벽에서 톰켓의 포트를 외부 접속이 가능하도록 변경

```
$ sudo ufw allow 8080/tcp
```

- 서비스 실행

```
$ sudo service tomcat8 start
```


It works !

If you're seeing this page via a web browser, it means you've setup Tomcat successfully. Congratulations!

This is the default Tomcat home page. It can be found on the local filesystem at: /var/lib/tomcat8/webapps/ROOT/index.html

Tomcat8 veterans might be pleased to learn that this system instance of Tomcat is installed with CATALINA_HOME in /usr/share, and CATALINA_BASE in /var/lib/tomcat8, following the rules from /usr/share/doc/tomcat8-common/RUNNING.txt.gz.

You might consider installing the following packages, if you haven't already done so:

tomcat8-docs: This package installs a web application that allows to browse the Tomcat 8 documentation locally. Once ins you can access it by clicking here.

tomcat8-examples: This package installs a web application that allows to access the Tomcat 8 Servlet and JSP examples. C installed, you can access it by clicking here.

tomcat8-admin: This package installs two web applications that can help managing this Tomcat instance. Once installed, y access the manager webapp and the host-manager webapp.

NOTE: For security reasons, using the manager webapp is restricted to users with role "manager-gui". The host-manager w restricted to users with role "admin-gui". Users are defined in /etc/tomcat8/tomcat-users.xml.