

# 🌐 IT 네트워크 시스템 *IT Network Systems Administration*

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❖ - Worldskills Korea - Assessment Task (IT Network Systems) - ❁ [ Written by NullBins ]

- By default, the commands are executed as a root user.

[ Project-1 ] <🐧Linux Environments>

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## 10. Web 서버 구성 (Web Service Configuration)

- 🔒 DONG-SRV 및 DAE-SRV에서 Web 서버 구성 시 패키지 도구는 APACHE2를 사용함.

< Configuration >

- [ DONG-SRV1 ]

```
apt install apache2 libaprutil1-dbd-mysql mariadb-client -y
```

```
cd /etc/ssl/DONG-CA/certs
openssl req -new -out dong-www.req -newkey rsa:2048 -keyout dong-www.key -nodes
# CN=www.donghyun.net
```

```
vim san
```

```
subjectAltName = DNS:www.donghyun.net
```

```
openssl ca -in dong-www.req -out dong-www.crt -extfile san      # PW: Skill39
```

```
vim /etc/apache2/sites-available/default-ssl.conf
```

```
<IfModule mod_ssl.c>
    <VirtualHost _default_:443>
        ServerName www.donghyun.net
        DocumentRoot /var/www/html
        DBDriver mysql
        DBDParams
        "host=192.168.1.2,port=3306,dbname=WEB,user=root,pass=Skill39"

        <Directory /var/www/html>
            AuthType Basic
            AuthName "DB"
            AuthBasicProvider dbd
            AuthDBDUserPWQuery "SELECT passwd FROM web WHERE username = %s"
            Require valid-user
        </Directory>

        SSLCertificateFile      /etc/ssl/DONG-CA/certs/dong-www.crt
        SSLCertificateKeyFile   /etc/ssl/DONG-CA/certs/dong-www.key

        SSLCACertificatePath    /etc/ssl/DONG-CA/
        SSLCACertificateFile    /etc/ssl/DONG-CA/cacert.pem
    </VirtualHost>
</IfModule>
```

```
vim /var/www/html/index.html
```

```
<center><h2>Welcome to Donghyun Networks!</h2></center>
```

```
htpasswd -bns user01 Skill39 > /root/users.sql
```

```
vim /root/users.sql
```

```
INSERT INTO web (username, passwd) VALUES
('user01','{SHA}Ber1DA2q7NChn14D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user02','{SHA}Ber1DA2q7NChn14D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user03','{SHA}Ber1DA2q7NChn14D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user04','{SHA}Ber1DA2q7NChn14D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user05','{SHA}Ber1DA2q7NChn14D0Q1UuDmh0T8=');
```

```
INSERT INTO web (username, passwd) VALUES
('user06','{SHA}Ber1DA2q7NChn14D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user07','{SHA}Ber1DA2q7NChn14D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user08','{SHA}Ber1DA2q7NChn14D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user09','{SHA}Ber1DA2q7NChn14D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user10','{SHA}Ber1DA2q7NChn14D0Q1UuDmh0T8=');
```

```
mysql -h 192.168.1.2 -u root -pSkill39 WEB < /root/users.sql
```

```
a2enmod ssl dbd authn_dbd
a2ensite default-ssl.conf
systemctl restart apache2
```

- [ DAE-SRV ]

```
apt install apache2 php libapache2-mod-php -y
```

```
cd /etc/ssl/DONG-CA/certs
openssl req -new -out dae-www.req -newkey rsa:2048 -keyout dae-www.key -nodes
# CN=www.daeseong.net
```

```
vim san
```

```
subjectAltName = DNS:www.daeseong.net
```

```
openssl ca -in dae-www.req -out dae-www.crt -extfile san           # PW: Skill39
```

```
vim /etc/apache2/apache2.conf
```

```
<Directory /var/www/php>
    AuthType basic
    AuthName "ldap"
    AuthBasicProvider ldap
    AuthLDAPURL "ldap://DAE-SRV.daeseong.net/dc=daeseong,dc=net?uid"
    Require valid-user
</Directory>
```

```
vim /etc/apache2/sites-available/default-ssl.conf
```

```
<IfModule mod_ssl.c>
    <VirtualHost _default_:443>
        ServerName www.daeseong.net
        DocumentRoot /var/www/php

        SSLCertificateFile      /etc/ssl/DONG-CA/certs/dae-www.crt
        SSLCertificateKeyFile   /etc/ssl/DONG-CA/certs/dae-www.key

        SSLCACertificatePath    /etc/ssl/DONG-CA/
        SSLCACertificateFile    /etc/ssl/DONG-CA/cacert.pem
    </VirtualHost>
</IfModule>
```

```
mkdir -p /var/www/php
```

```
vim /var/www/php/index.php
```

```
<?php
$username = $_SERVER['REMOTE_USER'];
echo "<center><h2>Welcome to Daeseong Networks, $username</h2></center>";
>
```

```
1 <?php
2     $username = $_SERVER['REMOTE_USER'];
3     echo "<center><h2>Welcome to Daeseong Networks, $username</h2></center>";
4 ?>
```

```
a2enmod ssl authnz_ldap
a2ensite default-ssl.conf
systemctl restart apache2
```

- 🔔 DONG-CLI 및 DAE-CLI에서 Web 서버 인증 설정 DONG-CA에서 RootCA 인증서를 가져와 인증합니다.
- [ DONG-CLI ]

```
scp root@dong-srv.donghyun.net:/etc/ssl/DONG-CA/cacert.pem /usr/local/share/ca-certificates/ca.crt
update-ca-certificates
```

Open Firefox

The screenshot shows the Mozilla Firefox settings interface under "Privacy & Security". The "Enhanced Tracking Protection" section is visible, along with a shield icon and explanatory text about tracking prevention. Below it, the "Certificates" section is shown, featuring a checkbox for OCSP responder querying and a "View Certificates..." button, which is highlighted with a red box. A "Security Devices..." button is also present. The "Import..." button in the certificate management toolbar is also highlighted with a red box. At the bottom, a file selection dialog is open, prompting to "Select File containing CA certificate(s) to import", with a file named "ca.crt" listed in the location "/usr/local/share/ca-certificates".

General Home Search Privacy & Security Sync More from Mozilla Standard

Browser Privacy

**Enhanced Tracking Protection**

Trackers follow you around online to collect information about your browsing habits and interests. Firefox blocks many of these trackers and other malicious scripts. [Learn more](#)

**Certificates**

Query OCSP responder servers to confirm the current validity of certificates [View Certificates...](#) [Security Devices...](#)

▼ AC Camerfirma SA CIF A82743287

Camerfirma Chambers of Commerce R... Builtin Object Token

Camerfirma Global Chambersign Root Builtin Object Token

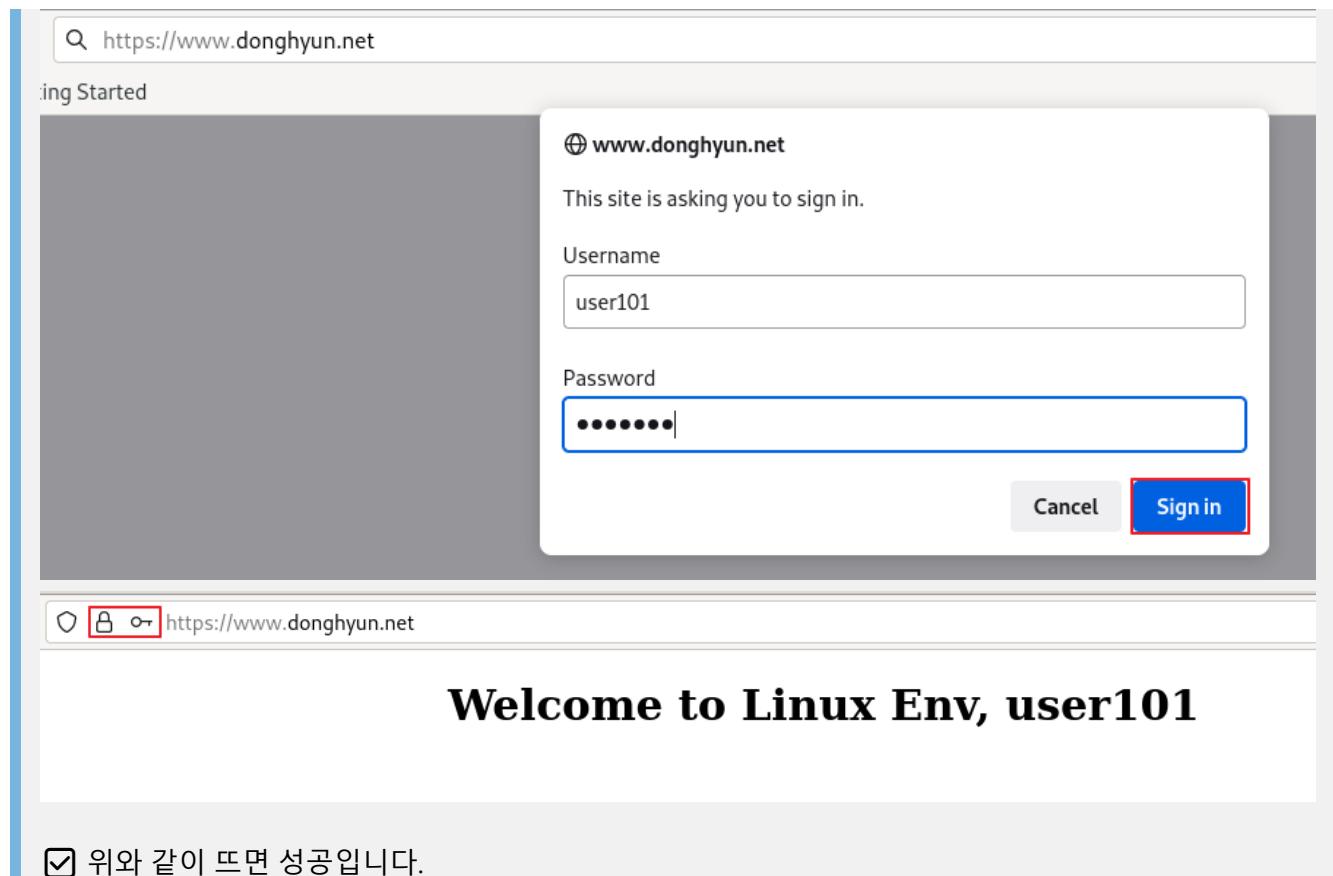
[View...](#) [Edit Trust...](#) [Import...](#) [Export...](#) [Delete or Distrust...](#)

Select File containing CA certificate(s) to import

Name	Location	Size	Type	Accessed
ca.crt	/usr/local/share/ca-certificates	4.2 kB	X.509 Certificate	06:39

위와 같이 설정합니다.

- 🔔 Web 서버 접속 테스트



위와 같이 뜨면 성공입니다.

- [ DAE-SRV, DAE-CLI ] -> 과제지를 참고하여 위처럼 동일하게 Web Service 설정.