🌐 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*>

10. Web 서버 구성 (Web Service Configuration)

- ✨ *DONG-SRV 및 DAE-SRV 에서 Web 서버 구성* 구성 시 패키지 도구는 APACHE2를 사용함.

< ***Configuration*** >

- [**DONG-SRV1**]

```
apt install apache2 libaprutil1-dbd-mysql maridb-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}BerlDA2q7NChnl4D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user02','{SHA}BerlDA2q7NChnl4D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user03','{SHA}BerlDA2q7NChnl4D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user04','{SHA}BerlDA2q7NChnl4D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user05','{SHA}BerlDA2q7NChnl4D0Q1UuDmh0T8=');
```

```
INSERT INTO web (username, passwd) VALUES
('user06','{SHA}BerlDA2q7NChnl4D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user07','{SHA}BerlDA2q7NChnl4D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user08','{SHA}BerlDA2q7NChnl4D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user09','{SHA}BerlDA2q7NChnl4D0Q1UuDmh0T8=');
INSERT INTO web (username, passwd) VALUES
('user10','{SHA}BerlDA2q7NChnl4D0Q1UuDmh0T8=');
```

```
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>";
>
```

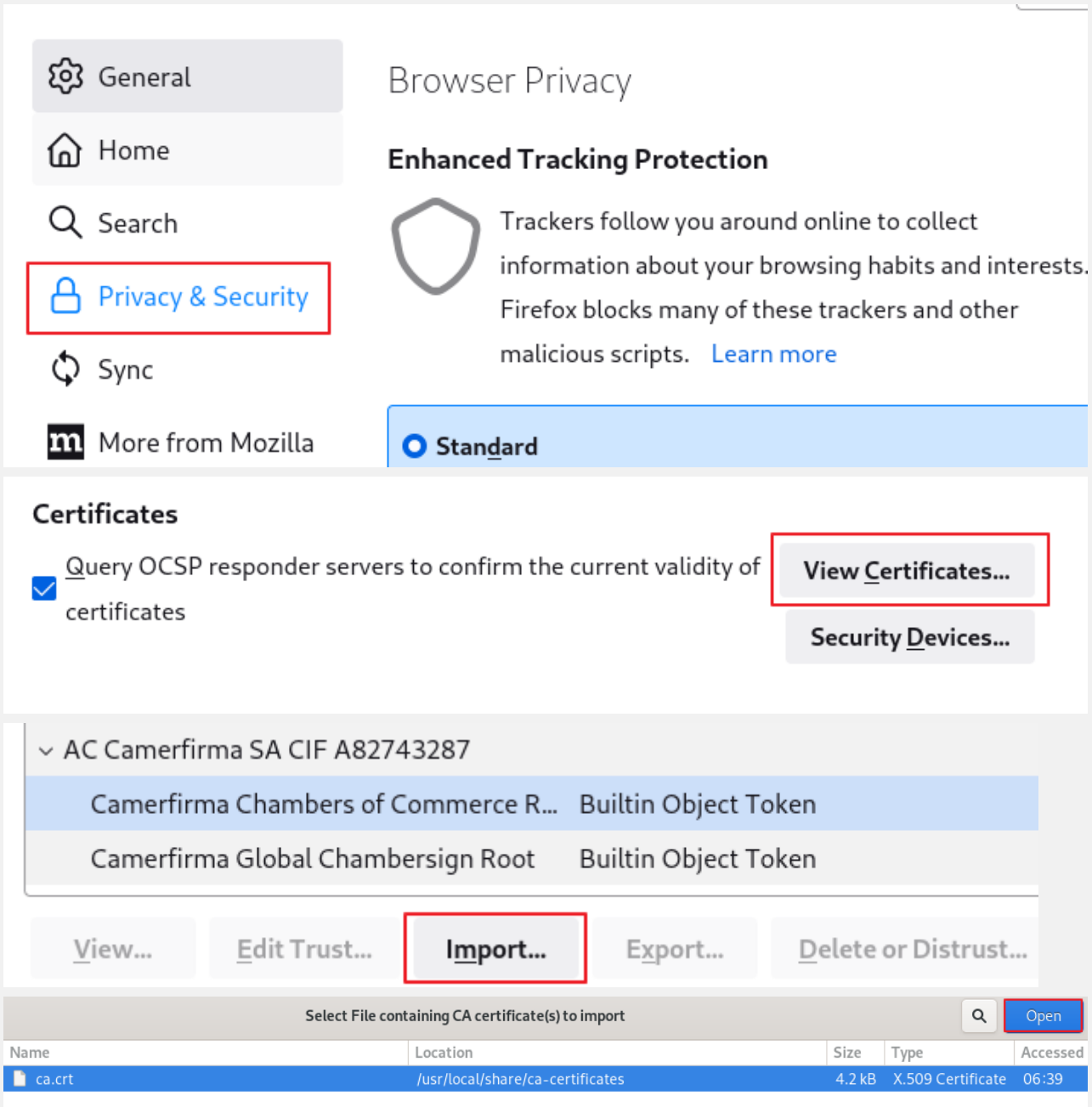
```
1 <?php
2         $username = $_SERVER['REMOTE_USER'];
3         echo "<center><h2>Welcome to Daeseong Networks, $username</h2></center>";
4 ?>
```

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

- ✨ *DONG-CLI 및 DAE-CLI 에서 Web 서버 인증 설정* DONG-CA에서 RootCA 인증서를 가져와 인증합니다.
- [**DONG-CLI**]

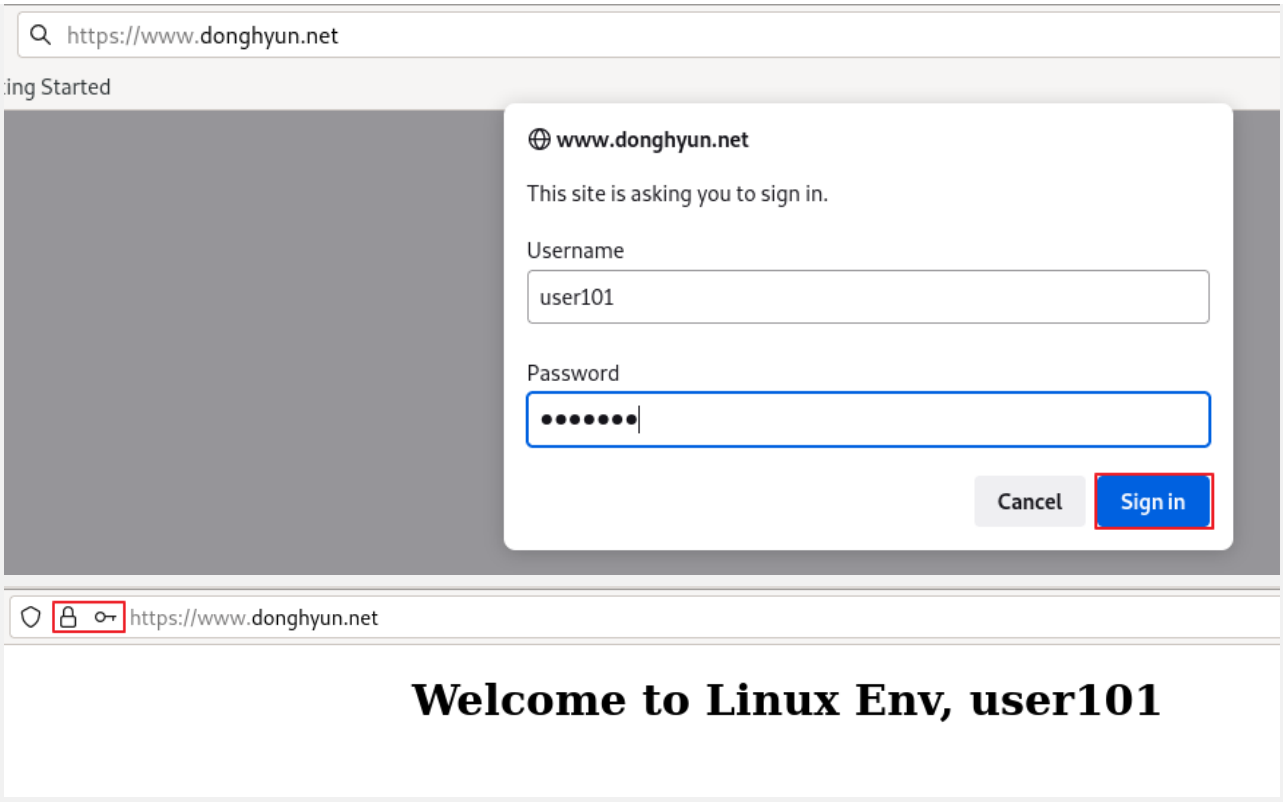
```
scp root@dong-srv.donghyun.net:/etc/ssl/DONG-CA/cacert.pem /usr/local/share/ca-certificates/ca.crt
update-ca-certificates
```

Open Firefox



☑ 위와 같이 설정합니다.

- ✨ *Web 서버 접속 테스트*



☑ 위와 같이 뜨면 성공입니다.

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