

HTTP

PRACTICAL WORK 4

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I. Virtual hosts & restricted accesses

1. Creation of 3 virtual hosts on Debian

www.rt1.mrt : Only access from Ubuntu, Debian & Alpine

➔ Check listening ports :

- `sudo /etc/apache2/ports.conf`

```
Listen 80

<IfModule ssl_module>
    Listen 443
</IfModule>

<IfModule mod_gnutls.c>
    Listen 443
</IfModule>

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet
```

➔ `mkdir /home/user/www`

➔ `mkdir /home/user/www/rt1`

➔ `sudo vi /home/user/www/rt1/index.html`

```
<!DOCTYPE html>
<html>
<body>

<h1>Welcome rt1.mrt</h1>

</body>
</html>
```

➔ `sudo ln -s /home/user/www/rt1 /var/www/rt1.mrt`

➔ `sudo vi /etc/apache2/sites-available/001-rt1.mrt.conf`

```
<VirtualHost *:80>

    ServerAdmin contact@admin.fr
    ServerName rt1.mrt
    ServerAlias *.rt1.mrt

    DocumentRoot /var/www/rt1.mrt

    <Directory /var/www/rt1.mrt>
        Options -Indexes +FollowSymLinks
        AllowOverride All
        Allow from 10.22.141.15
        Allow from 10.22.141.16
        Allow from 10.22.141.17
    </Directory>

    ErrorLog /home/tdeb/logs/error.log
</VirtualHost>
```

➔ `mkdir /home/user/logs`

➔ `touch /home/user/logs/error.log`

➔ `sudo a2ensite 001-rt1.mrt`

➔ `sudo vi /etc/hosts`

```
127.0.0.1      localhost
127.0.1.1      debian
127.0.0.1      rt1.mrt
127.0.0.1      www.rt1.mrt
# The following lines are desir
```

→ sudo systemctl reload apache2

Test from Debian

→ curl rt1.mrt

```
<!DOCTYPE html>
<html>
<body>

<h1>Welcome rt1.mrt</h1>

</body>
</html>
```

Test from Alpine

→ sudo vi /etc/hosts

```
10.22.141.16   rt1.mrt
10.22.141.16   www.rt1.mrt
```

→ curl rt1.mrt

```
<!DOCTYPE html>
<html>
<body>

<h1>Welcome rt1.mrt</h1>

</body>
</html>
```

Test from Ubuntu

→ sudo vi /etc/hosts

```
10.22.141.16   rt1.mrt
10.22.141.16   www.rt1.mrt
```

→ curl rt1.mrt

```
<!DOCTYPE html>
<html>
<body>

<h1>Welcome rt1.mrt</h1>

</body>
</html>
```

2. [www.rt2.mrt](#) : Only access from Debian & Alpine

- ➔ `sudo mkdir /home/user/www/rt2`
- ➔ `sudo cp /home/user/www/rt1/index.html /home/user/www/rt2/index.html`
- ➔ `sudo vi /home/user/www/rt2/index.html`

```
<!DOCTYPE html>
<html>
<body>

<h1>Welcome rt2.mrt</h1>

</body>
</html>
~
```

- ➔ `sudo ln -s /home/user/www/rt2 /var/www/rt2.mrt`
- ➔ `sudo cp /etc/apache2/sites-available/001-rt1.mrt.conf /etc/apache2/sites-available/002-rt2.mrt.conf`
- ➔ `sudo vi /etc/apache2/sites-available/002-rt2.mrt.conf`

```
<VirtualHost *:80>

    ServerAdmin contact@admin.fr
    ServerName rt2.mrt
    ServerAlias *.rt2.mrt

    DocumentRoot /var/www/rt2.mrt

    <Directory /var/www/rt2.mrt>
        Options -Indexes +FollowSymLinks
        AllowOverride All
        Allow from 10.22.141.15
        Allow from 10.22.141.16
    </Directory>

    ErrorLog /home/tdeb/logs/error.log
</VirtualHost>
~
```

- ➔ `sudo a2ensite 002-rt2.mrt`
- ➔ `sudo vi /etc/hosts`

```
127.0.0.1      localhost
127.0.1.1      debian
127.0.0.1      rt1.mrt
127.0.0.1      www.rt1.mrt
127.0.0.1      rt2.mrt
127.0.0.1      www.rt2.mrt
```

- ➔ `sudo systemctl reload apache2`

Test from Debian

- ➔ `curl rt2.mrt`

```
<!DOCTYPE html>
<html>
<body>

<h1>Welcome rt2.mrt</h1>

</body>
</html>
tdeb@debian: /etc/apache2$
```

Test from Alpine

→ sudo vi /etc/hosts

```
10.22.141.16 rt1.mrt
10.22.141.16 www.rt1.mrt
10.22.141.16 rt2.mrt
10.22.141.16 www.rt2.mrt
```

→ curl rt2.mrt

```
<!DOCTYPE html>
<html>
<body>

<h1>Welcome rt2.mrt</h1>

</body>
</html>
alpine:~$
```

Test from Ubuntu

→ sudo vi /etc/hosts

```
10.22.141.16 rt1.mrt
10.22.141.16 www.rt1.mrt
10.22.141.16 rt2.mrt
10.22.141.16 www.rt2.mrt
```

→ curl rt2.mrt

```
<!DOCTYPE html>
<html>
<body>

<h1>Welcome rt2.mrt</h1>

</body>
</html>
alpine:~$
```

3. [www.rt3.mrt : Only access from Debian & Ubuntu](#)

→ sudo mkdir /home/user/www/rt3

→ sudo cp /home/user/www/rt1/index.html /home/user/www/rt3/index.html

→ sudo vi /home/user/www/rt3/index.html

```
<!DOCTYPE html>
<html>
<body>

<h1>Welcome rt333rt</h1>

</body>
</html>
```

- ➔ sudo ln -s /home/user/www/rt3 /var/www/rt3.mrt
- ➔ sudo cp /etc/apache2/sites-available/001-rt1.mrt.conf /etc/apache2/sites-available/002-rt2.mrt.conf
- ➔ sudo vi /etc/apache2/sites-available/003-rt3.mrt.conf

```
<VirtualHost *:80>

    ServerAdmin contact@admin.fr
    ServerName rt3.mrt
    ServerAlias *.rt3.mrt

    DocumentRoot /var/www/rt3.mrt

    <Directory /var/www/rt3.mrt>
        Options -Indexes +FollowSymLinks
        AllowOverride All
        Allow from 10.22.141.16
        Allow from 10.22.141.17
    </Directory>

    ErrorLog /home/tdeb/logs/error.log
</VirtualHost>
~
~
```

- ➔ sudo a2ensite 003-rt3.mrt
- ➔ sudo vi /etc/hosts

```
127.0.0.1    localhost
127.0.1.1    debian
127.0.0.1    rt1.mrt
127.0.0.1    www.rt1.mrt
127.0.0.1    rt2.mrt
127.0.0.1    www.rt2.mrt
127.0.0.1    rt3.mrt
127.0.0.1    www.rt3.mrt
# The following lines are de
```

- ➔ sudo systemctl reload apache2

Test from Debian

- ➔ curl rt3.mrt

```
<!DOCTYPE html>
<html>
<body>

<h1>Welcome rt333rt</h1>

</body>
</html>
tdeb@debian:/etc/apache2$
```

Test from Alpine

→ `sudo vi /etc/hosts`

```
10.22.141.16 rt1.mrt
10.22.141.16 www.rt1.mrt
10.22.141.16 rt2.mrt
10.22.141.16 www.rt2.mrt
10.22.141.16 rt3.mrt
10.22.141.16 www.rt3.mrt
127.0.0.1 alpine.my.domain
```

→ `curl rt2.mrt`

```
<h1>Welcome rt333rt</h1>
</body>
</html>
```

Test from Ubuntu

→ `sudo vi /etc/hosts`

```
10.22.141.16 rt1.mrt
10.22.141.16 www.rt1.mrt
10.22.141.16 rt2.mrt
10.22.141.16 www.rt2.mrt
10.22.141.16 rt3.mrt
10.22.141.16 www.rt3.mrt
```

→ `curl rt2.mrt`

```
<body>
<h1>Welcome rt333rt</h1>
</body>
```

II. Virtual host on Alpine with SSL

- `apk add apache2-ssl openssl`
- `sudo openssl req -x509 -nodes -days 365 -newkey rsa:2048 -sha256 -out /etc/ssl/certs/server.crt -keyout /etc/ssl/private/server.key`
- Edit the `/etc/apache2/conf.d/ssl.conf` file

```
<VirtualHost _default_:443>
DocumentRoot "/var/www/localhost/rt4"
ServerName www.rt4.mrt:443
ServerAdmin you@example.com
ErrorLog logs/ssl_error.log
TransferLog logs/ssl_access.log
SSLEngine on
```



```
#### Indiquer le chemin des clés générées précédemment par le ssl pour le certificat
SSLCertificateFile /etc/ssl/certs/server.crt
SSLCertificateKeyFile /etc/ssl/private/server.key
<Directory "/var/www/localhost/rt4">
    SSLOptions +StdEnvVars
    Options -Indexes
    Require all granted
</Directory>
CustomLog logs/ssl_request.log
</VirtualHost>
```

- ➔ sudo mkdir /var/www/localhost/rt4
- ➔ sudo vi /var/www/localhost/rt4/index.html

```
rt4!!!!!!!!!!!!
```

- ➔ sudo chmod +x /var/www/localhost/rt4/index.html
- ➔ sudo service apache2 restart
- ➔ sudo vi /etc/hosts

```
10.22.141.10 www.rt4.mrt
127.0.0.1 rt4.mrt
127.0.0.1 www.rt4.mrt
```

```
alpine:~$ curl -k https://www.rt4.mrt
rt4!!!!!!!!!!!!
```