Setup Web Server (CentOS 7)

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Introduction

1. Introduction

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Edu: RUPP (CSD / 2016-2020)

Work: Private Company for 6 Years

Position: Linux System Administrator

Interested: (Server Web Hosting, Cloud Computing, DevOps,Web Security, ML,Data Science)

Web Server

1. What is Website?
2. What is Web Server?
3. How Web Server work?
4. Why we need Web Server?
5. How to setup Web Server?

Setup Web Server

Install Web Server

(PHP7.4, Apache, MySQL, phpMyAdmin,Firewall)

Requirement:

- CentOS 7 (Minimal)

- RAM 1GB (Min)

- Disk 25GB (Min)

- CPU 1Core (Min)

- IP Public

- Domain Name

- DNS Server

Setup Web Server

Deployment Server:

- Virtual Machine (Digital Ocean's Droplet)

Setup Web Server (Install Firewall)

1. Connect server via SSH

   - Windows: putty

   - Linux & MacOS: ssh command

2. Install Firewall

   # yum install firewalld -y

3. Start Service Firewall

   # systemctl start firewalld

4. Enable Service Firewall (Auto startup)

   # systemctl enable firewalld

5. Check Status

   # systemctl status firewalld

6. Add Port SSH-22 to Firewall

   # firewall-cmd --permanent --add-port=22/tcp

7. Reload Firewall

   # firewall-cmd --reload

Setup Web Server (Install Apache)

1. Install Apache

yum install httpd -y

2. Add Port Apache (80) to firewall & Reload

firewall-cmd --permanent --add-port=80/tcp

firewall-cmd --reload

3. Start Apache Service

systemctl start httpd

4. Enable Apache When Boot (Auto Startup)

systemctl enable httpd

5. Check Apache Status & Run IP on browser

systemctl status httpd

Setup Web Server (Install PHP 7.4)

1. Install yum-utils & epel repository:

    # yum install epel-release yum-utils -y

2. Install remirepo:

    # yum install -y http://rpms.remirepo.net/enterprise/remi-release-7.rpm

3. Set PHP 7.4 repository as default:

    # yum-config-manager --enable remi-php74

4. Install PHP 7.4 & PHP Extension:

    # yum install php php-common php-opcache php-mcrypt php-cli php-gd php-curl

    php-mysql -y

5. Check PHP Version

    # php -v

Setup Web Server (Test PHP & Apache)

1. Remove welcome landing page:

rm /etc/httpd/conf.d/welcome.conf

2. Assign ownership $USER:

chown -R $USER:$USER /var/www/html

3. Set default permission web root:

chmod -R 755 /var/www

4. Create info.php in /var/www/html:

nano /var/www/html/info.php

<?php phpinfo(); ?>

5. Restart Apache

systemctl restart httpd

Setup Web Server (Install MySQL)

1. **Install MySQL (MariaDB):**

   # yum install mariadb-server mariadb -y

2. **Start Service Mariadb:**

   # systemctl start mariadb

3. **Enable Service Mariadb when boot:**

   # systemctl enable mariadb

4. **Installation Database via Mariadb configuration:**

   # mysql_secure_installation

5. **Restart Mariadb**

   # systemctl restart Mariadb

Setup Web Server (Install phpMyAdmin)

1. Install phpMyAdmin:

yum install phpmyadmin -y

2. Restart Apache & Test access phpmyadmin:

systemctl restart httpd

→ goto: http:__ip__/phpmyadmin

3. Configuration permission if forbidden page:

nano /etc/httpd/conf.d/phpMyAdmin.conf

Add: Require all granted inside <RequireAny> tag.

4. Restart Apache Again:

systemctl restart httpd

5. Access phpMyAdmin:

→ goto: http://__ip__/phpmyadmin

Note: Password Mariadb

Setup Web Server (Setup VirtualHost)

1. Create Directory site-available & site-enabled:

mkdir -p /etc/httpd/sites-available /etc/httpd/sites-enabled

2. Declaring an optional directory to virtualhost:

nano /etc/httpd/conf/httpd.conf

Add line: IncludeOptional sites-enabled/*.conf at to end of the line of this file.

Web Server (Point DNS For Domain)

1. Add Record to DNS Management (ex: fb-interests.com):

→ Goto DNS Manager and add A record to domain and point IP Web Server.

Ex: fb-interests.com → A → 167.172.70.151

Ex: www.fb-interests.com → CNAME → fb-interests.com

2. Lookup Correct DNS Changes (ex: fb-interests.com):

→ Goto: **dnschecker.org** and input your domain to check correct DNS has resolve or not.

Change DNS to resolve correct records will take up to 48h to resolve.

Web Server (Create Website Root Directory)

1. Create directory root of website (ex: fb-interests.com):

```
# mkdir -p /var/www/fb-interests.com/public_html
```

2. Create directory log of website (ex: fb-interests.com):

```
# mkdir -p /var/www/fb-interests.com/log
```

3. Assign Ownership user for website (ex: fb-interests.com):

```
# chown -R $USER:$USER /var/www/fb-interests.com/public_html
```

4. Write Some code for webpage:

```
# nano /var/www/fb-interests.com/public_html/index.php
```

Code: <?php

```
        $domain = $_SERVER['HTTP_HOST'];
        Echo "This is website ".$domain;

    ?>
```

Web Server (Create Website in VirtualHost)

1. Create website on virtualhost (ex: fb-interests.com):

nano /etc/httpd/sites-available/fb-interests.com.conf

Add This Code:

```
<VirtualHost *:80>

    ServerName fb-inerests.com

    ServerAlias www.fb-inertests.com

    DocumentRoot /var/www/fb-inertests.com/public_html

    ErrorLog /var/www/fb-interests.com/log/error.log

    CustomLog /var/www/fb-interests.com/log/requests.log combined

</VirtualHost>
```

Web Server (Create Website VirtualHost)

2. Create symbolic link sites-enabled (ex: fb-interests.com):

ln -s /etc/httpd/sites-available/fb-interests.com.conf /etc/httpd/sites-enabled/fb-interests.com.conf

3. Check Config Syntax

httpd -t

4. Restart Service Apache

systemctl restart httpd

Web Server (Adjusting SELinux Permission)

1. Adjusting Apache Policies Universally:

setsebool -P httpd_unified 1

2. Check Apache Policies on a Directory (ex: fb-interests.com)

ls -dZ /var/www/fb-interests.com/log

Note:

    - httpd_sys_content_t : Apache can read only inside log/ directory.

    - httpd_log_t : Apache can write log file inside log/ directory.

4. Change Content Type for Apache log file (ex: fb-interests.com):

semanage fcontext -a -t httpd_log_t "/var/www/fb-interests.com/log(/.*)?"

5. Apply changes Content Type when reboot (ex: fb-interests.com):

restorecon -R -v /var/www/fb-interests.com/log

6. Check Apache Policies again (ex: fb-interests.com)

ls -dZ /var/www/fb-interests.com/log/

7. Restart Apache & Test

systemctl restart httpd

Web Server (Deploy WordPress)

1. Upload compress WordPress source code to web server (ex: fb-interests.com):

scp wordpress.zip root@167.172.70.151:/var/www/fb-interests.com/public_html/

2. Install & Unzip compress file (ex: fb-interests.com)

yum install -y zip unzip

unzip /var/www/fb-interests.com/public_html/wordpress.zip

4. Create Database for WordPress (ex: fb-interests.com):

→ Goto: http://167.172.70.151/phpmyadmin

5. Install WordPress (ex: fb-interests.com):

→ Goto: http://fb-interests.com and complete WordPress installation guide.

Web Server (Project Information)

Reference Resource of this project:

- https://www.digitalocean.com/community/tutorials/how-to-install-the-apache-web-server-on-centos-7

- https://www.digitalocean.com/community/tutorials/how-to-install-mariadb-on-centos-7

- https://www.digitalocean.com/community/tutorials/how-to-install-and-secure-phpmyadmin-with-apache-on-a-centos-7-server

- https://computingforgeeks.com/how-to-install-php-7-4-on-centos-7/

- https://www.digitalocean.com/community/tutorials/how-to-set-up-a-firewall-using-firewalld-on-centos-7

Thank You

Thanks for your times to watch and looking our documents on this project.

Any Question?

Please feel free ask for questions if you have any query.

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