# Extracted Scripts and Code from Chapter 8

This document contains all extracted scripts and code snippets from Chapter 8: 'Web Server Setup and Configuration' in a structured format for easy reference.

## Installing Apache Web Server

sudo dnf update -y

sudo dnf upgrade -y

sudo dnf install httpd -y

httpd -v

sudo systemctl start httpd

sudo systemctl enable httpd

sudo systemctl status httpd

## Configuring the Firewall

sudo firewall-cmd --permanent --add-service=http

sudo firewall-cmd --permanent --add-service=https

sudo firewall-cmd --reload

sudo firewall-cmd --list-all

## Testing Apache Installation

ip addr show

echo "<h1>Apache is Working!</h1>" | sudo tee /var/www/html/index.html

http://<your\_server\_ip>

http://localhost

http://127.0.0.1

## Configuring Virtual Hosts

sudo mkdir -p /var/www/example.com/public\_html

sudo chown -R apache:apache /var/www/example.com/public\_html

echo "<h1>Welcome to example.com!</h1>" | sudo tee /var/www/example.com/public\_html/index.html

sudo nano /etc/httpd/conf.d/example.com.conf

<VirtualHost \*:80>  
 ServerAdmin webmaster@example.com  
 DocumentRoot /var/www/example.com/public\_html  
 ServerName example.com  
 ErrorLog /var/log/httpd/example.com\_error.log  
 CustomLog /var/log/httpd/example.com\_access.log combined  
 </VirtualHost>

sudo nano /etc/hosts

127.0.0.1 example.com

sudo systemctl restart httpd

sudo tail -f /var/log/httpd/example.com\_error.log

## Enabling SSL for Virtual Hosts

sudo dnf install mod\_ssl -y

sudo nano /etc/httpd/conf.d/example.com.conf

<VirtualHost \*:443>  
 ServerAdmin webmaster@example.com  
 DocumentRoot /var/www/example.com/public\_html  
 ServerName example.com  
 SSLEngine on  
 SSLCertificateFile /etc/ssl/certs/example.com.crt  
 SSLCertificateKeyFile /etc/ssl/private/example.com.key  
 ErrorLog /var/log/httpd/example.com\_error.log  
 CustomLog /var/log/httpd/example.com\_access.log combined  
 </VirtualHost>

## Basic Web Server Security

sudo nano /etc/httpd/conf/httpd.conf

ServerTokens Prod  
 ServerSignature Off

sudo systemctl restart httpd

sestatus

sudo setenforce 1

sudo reboot

sudo nano /etc/httpd/conf/httpd.conf

<Directory "/var/www/html">  
 <Files "\*.conf">  
 Require all denied  
 </Files>  
 <Files "\*.log">  
 Require all denied  
 </Files>  
 <Files "phpinfo.php">  
 Require all denied  
 </Files>  
 </Directory>

sudo apachectl configtest

sudo systemctl restart httpd

## Installing and Configuring PHP and MySQL

sudo dnf install php php-cli php-common php-fpm php-mysqlnd

php -v

sudo systemctl restart httpd

sudo dnf install mysql-server -y

sudo systemctl enable mysqld

sudo systemctl start mysqld

sudo mysql\_secure\_installation

sudo mysql -u root -p

SHOW DATABASES;

EXIT;

sudo nano /var/www/html/dbtest.php

<?php  
 $servername = "localhost";  
 $username = "root";  
 $password = "your\_root\_password";  
  
 // Create connection  
 $conn = new mysqli($servername, $username, $password);  
  
 // Check connection  
 if ($conn->connect\_error) {  
 die("Connection failed: " . $conn->connect\_error);  
 }  
 echo "Connected successfully to MySQL!";  
 ?>

sudo firewall-cmd --permanent --add-service=http

sudo firewall-cmd --permanent --add-service=https

sudo firewall-cmd --reload

sudo setsebool -P httpd\_can\_network\_connect on

## Deploying Web Servers in AWS

sudo yum update -y

sudo yum install httpd -y

sudo systemctl start httpd

sudo systemctl enable httpd

sudo nano /var/www/html/index.html

<html>  
 <head>  
 <title>Welcome to My Website</title>  
 </head>  
 <body>  
 <h1>Apache Web Server on AWS EC2</h1>  
 <p>Your web server is successfully deployed!</p>  
 </body>  
 </html>

sudo systemctl restart httpd