

# Installing & Configuring Web Server - PHP

- Step 1 : Install Apache in Web Server
  - Command : `yum install httpd -y`
  - Command : Set hostname as `udc.example.com` (using `vi /etc/hostname` we have to change permanently)
- Step 2 : Install PHP and other tools in Web Server
  - Commands : `dnf module list php`  
`dnf module -y enable php:8.1`  
`dnf module -y install php:8.1/common`  
`yum install mysql -y`  
`yum install php-mysqli -y`
- Step 3 : Check the installed PHP version and enable httpd service
  - Command : `php -v`
  - Command : `systemctl enable --now httpd`
- Step 4 : Create a test page in Web Server
  - Commands : `cd /var/www/html`  
`vi php_test.php`
- Step 5 : Paste below content > Save and exit the file

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

<h1>My first PHP page</h1>

<?php
echo "Hello World!";
?>

</body>
</html>
```

- Step 6 : Now open the browser and type below

`http://<Web server IP Address>/php_test.php`

Incase if its not working – we need to stop the firewall of linux

Commands :

- i) `setenforce 0`
- ii) `systemctl stop firewalld`

- Step 7 : Now you should see the test page 👍
- Step 8 : start the database server(clone copy of web server)
  - Step 8.1 : Command : Set hostname as dbsvr.example.com (using vi `/etc/hostname` we have to change permanently)
- Step 9 : Need to stop firewall using these commands (`setenforce 0`, `systemctl stop firewalld`)
- Step 10 : Need to remove bridged network (for security user) using `nmtui`
- Step 11 : need to connect web server to database server (ssh [root@192.168.30.9](ssh://root@192.168.30.9))

### MySQL Database Installation & Configuration

- Step 1 : Install MySQL Server in DB Server
  - Command : `dnf -y install mysql-server`
- Step 2 : Configure the character set in DB Server
  - Command : `vi /etc/my.cnf.d/charset.cnf`
  - Insert below in the same file
  - `[mysqld]`  
`character-set-server = utf8mb4`
  - 
  - `[client]`  
`default-character-set = utf8mb4`
- Step 2 : Enable the Mysql Service in DB Server
  - Command : `systemctl enable --now mysqld`
- Now configure the Database in DB Server
  - Command : `mysql_secure_installation`
  - Hints for next steps (No,No,Yes,Yes,Yes)
- After the setup, use below command to login to MySQL in DB Server
  - Command 1 : `mysql -u root -p`
  - Command 2 : `select user,host from mysql.user;`
  - Command 3 : `show databases;`

- Test Database creation commands
  - Command 1 : create database test\_database;
  - Command 2 : create table test\_database.test\_table (id int,name varchar(50), address varchar(50), primary key (id));
  - Command 3 : insert into test\_database.test\_table(id, name,address) values("031", "CentOS", "India");
  - Command 4 : select \* from test\_database.test\_table;
  - Command 5 : drop database test\_database;
  - Command 6 : exit

# User Data Collector Application - Installation & Configuration

We need to prepare the MySQL Database for our PHP code in the DB host

- Step 1 : Login to DB server > MySQL login and Create new database called “udc”
  - Command : `mysql -u root -p`
- Step 2 : Create new user called “udc” and assign permissions for the new user
  - Command : `CREATE USER 'udc'@'%' IDENTIFIED BY 'Welcome@123';`
  - Command : `GRANT ALL PRIVILEGES ON udc.* TO 'udc'@'%';`
- Step 3 : Login to MySQL server from the web server host and verify the connection
  - So first need to exit from mysql using `exit;`
  - Then again exit in DB server host using `exit` command, or else (`ssh root@192.168.177.166` (udc server ip))
  - Then reconfirm the hostname (it should show as `udc.example.com`)
  - Command : `mysql -h <DB Server IP> -u udc -p`
- Step 4 : Now create a Table for our PHP application
  - Command : `Create database udc;`
  - Command : `Use udc;`
  - Command : `CREATE TABLE users ( id INT AUTO_INCREMENT PRIMARY KEY, name VARCHAR(255) NOT NULL, age INT NOT NULL, country VARCHAR(255) NOT NULL );`
  - Command : `exit;`
- Step 5 : Now create folders in DB Servers
  - Command : `mkdir /var/udc`
  - Command : `mkdir /var/udc/uploads`
- Step 6 : In case file is not uploading and change the access
  - Command : `chmod 777 /var/udc`
  - Command : `chmod 777 /var/udc/uploads`
  - Command : `ls -l /var`
  - Command : `systemctl stop firewalld.service`

## Database Connection Test Page

We need to ensure the DB connection with below PHP code in Webserver

- Command 1 : vi /var/www/html/db\_check.php
- Command 2 : Copy below content > Paste in the file > Modify > Save > Exit
- Ensure the output is positive ([http://192.168.255.166/db\\_check.php](http://192.168.255.166/db_check.php))

```
<?php
// MySQL database configuration
$servername = "192.168.30.9";
$username = "password";
$password = "Password@123";
$dbname = "udc";

// Create a database connection
$conn = new mysqli($servername, $username, $password, $dbname);

// Check for connection errors if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

// Check if the connection is alive using ping if ($conn->ping()) {
    echo "MySQL server connection is alive.";
} else {
    echo "MySQL server connection is not alive.";
}

// Close the database connection
$conn->close();
?>
```

# Main Application Page

The Actual PHP main page code is below, please copy it and paste in “/var/www/html/main.php” file

```
<!DOCTYPE html>
<html>
<head>
<title>User Data Collection</title>
</head>
<body>
<?php
// MySQL database configuration
$servername = "192.168.30.9";
$username = "FACEPrep";
$password = "FACEPrep@123";
$dbname = "udc";
// Create a database connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
die("Connection failed: " . $conn->connect_error);
}
if ($_SERVER["REQUEST_METHOD"] == "POST") {
// Collect user data
$name = $_POST["name"];
$age = $_POST["age"];
$country = $_POST["country"];
// Insert data into the MySQL database
$sql = "INSERT INTO users (name, age, country) VALUES ('$name', $age, '$country')";
if ($conn->query($sql) === TRUE) {
echo "User data has been successfully stored in the database.<br>";
} else {
echo "Error: " . $sql . "<br>" . $conn->error;
}
// Handle file upload
$uploadDir = '/var/udc/uploads/';
$uploadFile = $uploadDir . basename($_FILES['userfile']['name']);
if (move_uploaded_file($_FILES['userfile']['tmp_name'], $uploadFile)) {
echo "File is valid, and it has been successfully uploaded.<br>";
} else {
echo "File upload failed.<br>";
}
}
?>
<h2>Enter User Information</h2>
<form method="post" enctype="multipart/form-data">
Name: <input type="text" name="name"><br>
Age: <input type="number" name="age"><br>
Country: <input type="text" name="country"><br>
File Upload: <input type="file" name="userfile"><br>
<input type="submit" value="Submit">
</form>
<?php
// Close the database connection
$conn->close();
?>
</body>
</html>
```