penjelasan yang lebih detail untuk setiap bagian kode PHP di setiap halaman.

1. db.php

```
File ini mengatur koneksi ke database MySQL.
php
Copy code
<?php
/**
* Database configuration and connection
* This file contains the database connection configuration and
* establishes a connection to the MySQL database.
*/
// Database server
$servername = "localhost";
// Database username
$username = "root";
// Database password
$password = "";
// Database name
$dbname = "simple_crud";
// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
```

```
if ($conn->connect_error) {
  // If connection fails, stop the script and output an error message
  die("Connection failed: " . $conn->connect_error);
}
?>
2. auth.php
File ini menangani autentikasi pengguna.
php
Copy code
<?php
/**
* Authentication and session management
* This file contains functions and session handling for user authentication.
*/
// Start a new session or resume the existing session
session_start();
* Check if the user is logged in
* This function checks if the user is logged in by verifying if
* a user ID exists in the session. If the user is not logged in,
* it redirects them to the login page.
*/
function check_login() {
  // Check if the user_id is set in the session
  if(!isset($_SESSION['user_id'])) {
```

```
// Redirect to the login page if the user is not logged in
    header("Location: login.php");
    die;
  }
}
?>
3. register.php
Halaman ini digunakan untuk mendaftarkan pengguna baru.
php
Copy code
<?php
* User registration
* This script handles user registration by receiving user input,
* validating it, and storing it in the database.
*/
// Start a new session or resume the existing session
session_start();
// Include the database connection file
include("db.php");
// Check if the form is submitted using POST method
if($_SERVER['REQUEST_METHOD'] == "POST") {
  // Get the submitted username and password
  $username = $_POST['username'];
  $password = $_POST['password'];
```

```
// Validate the input
  if(!empty($username) && !empty($password)) {
    // Hash the password for security
    $hash_password = password_hash($password, PASSWORD_DEFAULT);
    // Create an SQL query to insert the new user into the database
    $query = "INSERT INTO users (username, password) VALUES ('$username', '$hash_password')";
    // Execute the query
    mysqli_query($conn, $query);
    // Redirect to the login page after successful registration
    header("Location: login.php");
    die;
  } else {
    // Display an error message if the input is not valid
    echo "Please enter valid information!";
 }
?>
<!DOCTYPE html>
<html>
<head>
  <title>Register</title>
  <link rel="stylesheet" type="text/css" href="style.css">
</head>
<body>
  <form method="post">
```

}

```
<div>Register</div>
    <input type="text" name="username" placeholder="Username"><br><br><br>
    <input type="password" name="password" placeholder="Password"><br><br>
    <input type="submit" value="Register"><br><br>
  </form>
</body>
</html>
4. login.php
Halaman ini digunakan untuk login pengguna.
php
Copy code
<?php
/**
* User login
* This script handles user login by receiving user input,
* validating it against the database, and starting a session.
*/
// Start a new session or resume the existing session
session_start();
// Include the database connection file
include("db.php");
// Check if the form is submitted using POST method
if($_SERVER['REQUEST_METHOD'] == "POST") {
  // Get the submitted username and password
  $username = $_POST['username'];
```

```
$password = $_POST['password'];
// Validate the input
if(!empty($username) && !empty($password)) {
 // Create an SQL query to find the user in the database
  $query = "SELECT * FROM users WHERE username = '$username' LIMIT 1";
 // Execute the query
  $result = mysqli_query($conn, $query);
  // Check if the user exists in the database
  if($result && mysqli_num_rows($result) > 0) {
    // Fetch the user data
    $user_data = mysqli_fetch_assoc($result);
    // Verify the password
    if(password_verify($password, $user_data['password'])) {
      // Set the user ID in the session
      $_SESSION['user_id'] = $user_data['id'];
      // Redirect to the main page
      header("Location: index.php");
      die;
    }
  }
 // Display an error message if the username or password is incorrect
  echo "Invalid username or password!";
} else {
```

```
// Display an error message if the input is not valid
    echo "Please enter valid information!";
  }
}
?>
<!DOCTYPE html>
<html>
<head>
  <title>Login</title>
  k rel="stylesheet" type="text/css" href="style.css">
</head>
<body>
  <form method="post">
    <div>Login</div>
    <input type="text" name="username" placeholder="Username"><br><br><br>
    <input type="password" name="password" placeholder="Password"><br><br>
    <input type="submit" value="Login"><br><br>
  </form>
</body>
</html>
5. index.php
Halaman utama yang menampilkan daftar item dan menyediakan tautan untuk menambah, mengedit,
dan menghapus item.
php
Copy code
```

<?php

* Main page to display list of items

/**

```
* This script retrieves all items from the database and displays
* them in a table. It also provides links to add, edit, and delete items.
*/
// Include the authentication and database connection files
include("auth.php");
include("db.php");
// Check if the user is logged in
check_login();
// Create an SQL query to retrieve all items from the database
$query = "SELECT * FROM items";
// Execute the query
$result = mysqli_query($conn, $query);
?>
<!DOCTYPE html>
<html>
<head>
  <title>CRUD App</title>
  k rel="stylesheet" type="text/css" href="style.css">
</head>
<body>
  <h1>ltems List</h1>
  <a href="logout.php">Logout</a> | <a href="add.php">Add Item</a>
  ID
```

```
Name
     Description
     Actions
   <?php while($row = mysqli_fetch_assoc($result)): ?>
   <?php echo $row['id']; ?>
     <?php echo $row['name']; ?>
     <?php echo $row['description']; ?>
     <a href="edit.php?id=<?php echo $row['id']; ?>">Edit</a>
       <a href="delete.php?id=<?php echo $row['id']; ?>">Delete</a>
     <?php endwhile; ?>
 </body>
</html>
6. logout.php
Halaman ini digunakan untuk logout pengguna.
php
Copy code
<?php
/**
* User logout
* This script logs the user out by unsetting the session variable
* and redirecting to the login page.
*/
```

```
// Start a new session or resume the existing session
session_start();
// Check if the user ID is set in the session
if(isset($_SESSION['user_id'])) {
  // Unset the user ID session variable
  unset($_SESSION['user_id']);
}
// Redirect to the login page
header("Location: login.php");
die;
?>
7. add.php
Halaman ini digunakan untuk menambah item baru.
php
Copy code
<?php
/**
* Add a new item
* This script handles the addition of a new item by receiving user input,
* validating it, and storing it in the database.
*/
// Include the authentication and database connection files
include("auth.php");
include("db.php");
```

```
// Check if the user is logged in
check_login();
// Check if the form is submitted using POST method
if($_SERVER['REQUEST_METHOD'] == "POST") {
  // Get the submitted name and description
  $name = $_POST['name'];
  $description = $_POST['description'];
  // Validate the input
  if(!empty($name) && !empty($description)) {
    // Create an SQL query to insert the new item into the database
    $query = "INSERT INTO items (name, description) VALUES ('$name', '$description')";
    // Execute the query
    mysqli_query($conn, $query);
    // Redirect to the main page after successful addition
    header("Location: index.php");
    die;
  } else {
    // Display an error message if the input is not valid
    echo "Please enter valid information!";
  }
}
?>
<!DOCTYPE html>
<html>
```

```
<head>
  <title>Add Item</title>
  k rel="stylesheet" type="text/css" href="style.css">
</head>
<body>
  <form method="post">
    <div>Add Item</div>
    <input type="text" name="name" placeholder="Name"><br><br>
    <textarea name="description" placeholder="Description"></textarea><br><br>
    <input type="submit" value="Add"><br><br>
  </form>
</body>
</html>
8. edit.php
Halaman ini digunakan untuk mengedit item yang sudah ada.
php
Copy code
<?php
/**
* Edit an existing item
* This script handles the editing of an existing item by receiving user input,
* validating it, and updating the item in the database.
*/
// Include the authentication and database connection files
include("auth.php");
include("db.php");
```

```
// Check if the user is logged in
check_login();
// Get the item ID from the URL
$id = $_GET['id'];
// Check if the form is submitted using POST method
if($_SERVER['REQUEST_METHOD'] == "POST") {
  // Get the submitted name and description
  $name = $_POST['name'];
  $description = $_POST['description'];
  // Validate the input
  if(!empty($name) && !empty($description)) {
    // Create an SQL query to update the item in the database
    $query = "UPDATE items SET name='$name', description='$description' WHERE id=$id";
    // Execute the query
    mysqli_query($conn, $query);
    // Redirect to the main page after successful update
    header("Location: index.php");
    die;
  } else {
    // Display an error message if the input is not valid
    echo "Please enter valid information!";
  }
} else {
  // Create an SQL query to retrieve the item data from the database
```

```
$query = "SELECT * FROM items WHERE id=$id LIMIT 1";
  // Execute the query
  $result = mysqli_query($conn, $query);
  // Fetch the item data
  $row = mysqli_fetch_assoc($result);
}
?>
<!DOCTYPE html>
<html>
<head>
  <title>Edit Item</title>
  <link rel="stylesheet" type="text/css" href="style.css">
</head>
<body>
  <form method="post">
    <div>Edit Item</div>
    <input type="text" name="name" value="<?php echo $row['name']; ?>"><br><br>
    <textarea name="description"><?php echo $row['description']; ?></textarea><br><br>
    <input type="submit" value="Save"><br><br>
  </form>
</body>
</html>
9. delete.php
Halaman ini digunakan untuk menghapus item yang sudah ada.
php
Copy code
<?php
```

```
/**
* Delete an existing item
* This script handles the deletion of an existing item by receiving the item ID
* from the URL and removing the item from the database.
*/
// Include the authentication and database connection files
include("auth.php");
include("db.php");
// Check if the user is logged in
check_login();
// Get the item ID from the URL
$id = $_GET['id'];
// Create an SQL query to delete the item from the database
$query = "DELETE FROM items WHERE id=$id";
// Execute the query
mysqli_query($conn, $query);
// Redirect to the main page after successful deletion
header("Location: index.php");
die;
?>
10. style.css
```

File CSS ini digunakan untuk styling halaman web.

```
Copy code
/* Basic styling for the form and table */
/* Set the font and background color for the body */
body {
  font-family: Arial, sans-serif;
  margin: 0;
  padding: 0;
  background-color: #f2f2f2;
}
/* Style the form */
form {
  max-width: 300px;
  margin: 50px auto;
  padding: 10px;
  background: white;
  border-radius: 8px;
  box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
}
/* Center the form title and set the font size */
form div {
  text-align: center;
  margin-bottom: 20px;
  font-size: 24px;
}
```

```
/* Style the text and password input fields */
input[type="text"],
input[type="password"],
textarea {
  width: 100%;
  padding: 10px;
  margin: 10px 0;
  border: 1px solid #ccc;
  border-radius: 4px;
}
/* Style the submit button */
input[type="submit"] {
  width: 100%;
  padding: 10px;
  background-color: #4CAF50;
  color: white;
  border: none;
  border-radius: 4px;
  cursor: pointer;
}
/* Change the background color of the submit button when hovered */
input[type="submit"]:hover {
  background-color: #45a049;
}
/* Style the table */
table {
```

```
width: 100%;
  border-collapse: collapse;
  margin: 20px 0;
}
/* Style the table headers and cells */
table, th, td {
  border: 1px solid #ddd;
  padding: 8px;
}
/* Set the background color for the table headers */
th {
  background-color: #f2f2f2;
  text-align: left;
}
/* Center align the text in the table headers and cells */
th, td {
  text-align: center;
}
```

Dengan penjelasan detail ini, setiap bagian kode dijelaskan fungsinya dan bagaimana mereka bekerja.