

Build a website by Python FastAPI with Jinja2 template engine. Complete a simple verification system and a hotel query system defined below.

### Task 1: Home Page

Reference: [Static Files, Templates](#).

Write your web application using FastAPI, running with Uvicorn as a web server. We want to get a home page described below:

#### Home Page:

- URL: <http://127.0.0.1:8000/>
- Method: GET
- Design Points: a simple UI with a login-form, including a text input, password input, checkbox and submit button.

歡迎光臨，請輸入信箱密碼

登入系統

信箱

密碼

同意條款

登入

#### Required Procedure:

1. When a user tries to submit the login-form by clicking the submit button, check if the checkbox is checked by JavaScript in the front-end.
  - a. If the checkbox is not checked, show a simple alert dialog with 請勾選同意條款 message inside.
  - b. If the checkbox is checked, submit the login-form.

## Task 2: Verification

**Reference:** [Form Data](#), [Query Parameters](#), [Custom Response](#).

The user can enter email, password, check the checkbox, and finally submit the login-form to the back-end for verification. Redirect the user to the success or error page based on the verification result.

### Verification Endpoint:

- **URL:** <http://127.0.0.1:8000/login>
- **Method:** POST

### Success Page:

- **URL:** <http://127.0.0.1:8000/member>
- **Method:** GET
- **Design Points:** show a simple successful message on this page.



### Error Page:

- **URL:** <http://127.0.0.1:8000/ohoh?msg=自訂的錯誤訊息>
- **Method:** GET
- **Design Points:** get error message from Query String in URL defined above and show it on this page.



**Required Procedure:**

1. The user enters email and password, checks the checkbox in the **Home Page**.
2. Submit form data to **Verification Endpoint** by **POST** method after user clicking submit button. Execute verification procedure described below in the back-end:
  - a. If the email or password is empty, redirect the user to the **Error Page** including 請輸入信箱和密碼 message.
  - b. **Verify** if the email is **abc@abc.com** and the password is **abc**.
    - i. **If yes**, redirect the user to the **Success Page**.
    - ii. **If no**, redirect the user to the **Error Page** including 信箱或密碼輸入錯誤 message.

### Task 3: User State Management

**Reference:** [SessionMiddleware](#), [Advanced Middleware](#).

Use [SessionMiddleware](#) to manage user state in the verification procedure completed in Task 2. Record, trace, and verify user state in the back-end system.

#### Logout Endpoint:

- **URL:** <http://127.0.0.1:8000/logout>
- **Method:** GET

#### Success Page:

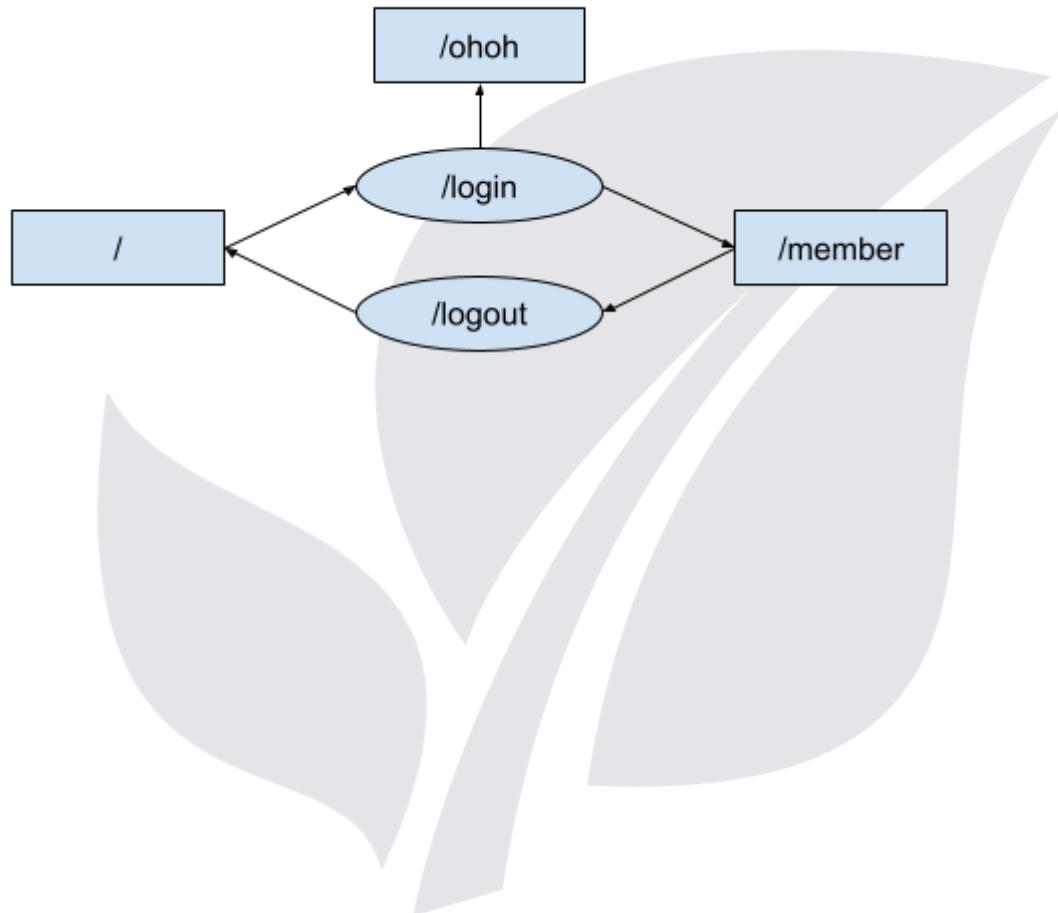
- **URL:** <http://127.0.0.1:8000/member>
- **Method:** GET
- **Design Points:** show a simple successful message and a hyperlink for logging out on this page.



#### Required Procedure:

1. In the **Verification Endpoint**, if the email and password are verified, set **LOGGED-IN** state to **TRUE** and redirect the user to the **Success Page**.
1. In the **Success Page**, if the user clicks the log out link, redirect to the **Logout Endpoint** where we set **LOGGED-IN** state to **FALSE**, and then redirect the user to the **HomePage**.
2. In the **Success Page**, we should always check the recorded **LOGGED-IN** state in the back-end logic. If it's **FALSE**, force redirecting the user to the **HomePage** without showing any content on the page.

For previous 3 tasks, you can refer to user flow shown as below:



#### Task 4: Path Parameter

Reference: [Path Parameters](#).

Based on the URLs provided in task 1, week 3. Accept a path parameter as a hotel ID, show hotel information on the **Hotel Page**.

**Home Page:**

- **URL:** <http://127.0.0.1:8000/>
- **Method:** GET
- **Feature:** click button to get hotel information.
- **Design Points:** a simple UI with a text input and a button.



歡迎光臨，請輸入信箱密碼

登入系統

信箱

密碼

同意條款

取得旅館資訊

編號

**Hotel Page:**

- **URL:** <http://127.0.0.1:8000/hotel/某個正整數代表編號>
- **Method:** GET
- **Design Points:** get and render hotel chinese name, english name and phone number based on the ID in the path of the URL defined above.

旅館的資訊

茶色部屋行旅 站前館、Brown House Hotel、02-23822800

返回首頁

旅館的資訊

查詢不到相關資料

返回首頁

**Required Procedure:**

1. The user enters ID in the text input in the **Home Page** and clicks the button.
2. Check if the entered ID is a positive number by JavaScript. If not, show a simple alert dialog with 請輸入正整數 message inside.
3. Redirect the user to the **Hotel Page** by JavaScript where **the entered ID number should be appended to the end of the path.**
4. If the ID exists, render the hotel information in the **Hotel Page**. Or, render **查詢不到相關資料**.