

Activity 4.2 - Creating Dynamic Interaction With Backend

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This activity establishes real-time communication between the UI and backend APIs. It ensures that the frontend dynamically fetches and displays data from the server.

Technologies used:

- JavaScript (Fetch API) or Axios
- FastAPI (Python) as backend framework
- JSON as data exchange format

Steps:

1. Developed FastAPI backend endpoints
2. Connected frontend components to backend using Fetch API
3. Displayed backend data dynamically in the UI
4. Handled error responses and loading states
5. Tested the integration using Postman and browser console

Frontend Code:

```
```javascript
fetch("http://localhost:8000/api/data")
 .then(res => res.json())
 .then(data => console.log(data));
...
```
```

Backend Code:

```
```python
```

```
from fastapi import FastAPI
```

```
app = FastAPI()
```

```
@app.get("/api/data")
```

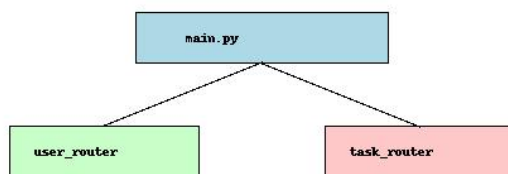
```
def get_data():
```

```
 return {"message": "Hello from backend!"}
```

```
...
```

Outcome:

The application is now capable of real-time interactions, providing a seamless user experience.



## Code Example

```
```html
<!-- Sample Frontend UI Code -->
<html>
  <head><title>SmartSDLC</title></head>
  <body>
    <h1>Welcome to SmartSDLC</h1>
    <button>Click</button>
  </body>
</html>
```
```

## Summary

This activity focuses on building an efficient and interactive user experience, linking the UI with backend APIs for a functional SmartSDLC application.