

Architecture Development Part 5: Interoperability- FHIR Data Exchange with HAPI-FHIR

1. Take a screenshot, save as response.code.png (or other picture format extension), and submit with your assignment on canvas demonstrating successful response code. (The screen short must show the name of your VM)

Attached

2. Process to Create a New FHIR Resource Using Postman and HAPI FHIR Server

A. Open Postman and Log In

- Launch Postman and sign in using your MTU credentials.

B. Create a New Request

- Click "New Request".
- Select the HTTP method as POST.
- Enter the Request URL: <http://localhost:8090/fhir/Practitioner>

C. Configure Headers

- Add a header:
 - Key: Content-Type
 - Value: application/json

D. Add the Request Body

- Copy a sample Practitioner resource from the Oracle Millennium API documentation.
- Paste it into Postman's Body section.
- Ensure the format is set to raw and JSON.

E. Send the Request

- Click "Send".
- A successful request will return HTTP Status Code 201 (Created).

F. Verify the Response

- The response should include details of the newly created Practitioner, including an ID.

3. What is the process to manage authentication when using Postman with a HAPI FHIR server?

I. Check Authentication Requirements

- Some servers require Basic Authentication (username/password) or OAuth 2.0 tokens.
- Open the following URL to check authentication settings: <http://localhost:8090/fhir/swagger-ui/>

II. Set Up Authentication in Postman

1. For Basic Authentication:

- Go to the Authorization tab in Postman.
- Select Basic Auth and enter your username and password (if required).

2. For OAuth 2.0 Authentication:

- In the Authorization tab, select OAuth 2.0.
- Click "Get New Access Token" and fill in:
 - Grant Type: Client Credentials or Authorization Code
 - Client ID and Client Secret
 - Token URL provided by the FHIR server
- Click "Request Token", then apply it to your request.

III. Include Tokens in Headers

- We have to manually add the Authorization header: Authorization: Bearer <your-access-token>

4. How can you handle error responses from the HAPI FHIR server when using Postman?

Errors may occur due to incorrect request formatting, authentication issues, or server failures. To troubleshoot:

1. Understand HTTP Response Status Codes

- 400 Bad Request – Incorrect request format (missing required fields).
- 401 Unauthorized – Authentication failed (check credentials or token).
- 403 Forbidden – Insufficient permissions to access the resource.
- 404 Not Found – The requested resource does not exist.
- 500 Internal Server Error – Server-side issue.

2. Postman Console for Debugging

- Open Postman Console: View > Show Postman Console
- Check request headers, body, and response details.

3. Fix and Retry the Request

- Ensure JSON syntax is correct.
- Verify the endpoint URL and HTTP method (GET, POST, PUT, DELETE).
- If using authentication, refresh your OAuth token or check credentials.

4. Validate API Endpoints Using HAPI FHIR Swagger UI

- Visit: <http://localhost:8090/fhir/swagger-ui/>

- Use the Swagger UI to test API requests before using Postman.