

## Solution Architecture – HealthAI

1. The **user** interacts with a web interface built using **Streamlit**.
2. Inputs include symptoms, health queries, or patient profile data.
3. Streamlit forwards these inputs to backend **Python functions**.
4. The backend formats prompts and sends them to **IBM Granite-13B-Instruct-v2** via API.
5. AI processes the prompt and returns a **personalized response** (e.g., diagnosis, treatment, chat reply).
6. The response is parsed and displayed on the **Streamlit frontend**.
7. For health tracking, sample data (heart rate, BP, glucose) is generated using **NumPy/Pandas**.
8. These metrics are visualized using **Plotly charts** inside the dashboard tab.
9. All user inputs and results are handled securely via **session state**, without persistent storage.
10. The entire app runs in a **modular structure**, making it easy to deploy or scale features.