**Running the Streamlit App (Detailed Guide)**

Once your Streamlit app is built, you need to ensure it's set up properly to run locally on your machine or on a deployment platform. Let’s break this process down into detailed steps.

**Step 1: Install Prerequisites**

Ensure that all required dependencies are installed before running your app.

1. **Install Python**  
   Make sure Python 3.8+ is installed on your machine. You can download it from the [official Python website](https://www.python.org/).
2. **Set Up a Virtual Environment (Optional but Recommended)**  
   Virtual environments isolate your project dependencies, preventing conflicts with system-wide installations.
   * **Create a virtual environment**:

bash

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python -m venv venv

* + **Activate the virtual environment**:
    - On Windows:

bash

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.\venv\Scripts\activate

* + - On macOS/Linux:

bash

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source venv/bin/activate

1. **Install Dependencies**  
   Use the requirements.txt file to install all necessary libraries:

bash

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pip install -r requirements.txt

**Step 2: Run the Streamlit App**

Streamlit apps are run using the streamlit run command. Follow these steps:

1. **Navigate to Your Project Directory**  
   Open your terminal (Command Prompt, PowerShell, or terminal emulator) and navigate to the folder containing your app:

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cd path/to/your/project

1. **Run the App**  
   Use the following command to launch your app:

bash

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streamlit run app/main.py

Replace app/main.py with the path to your main Streamlit script if it’s located elsewhere.

1. **Access the App**  
   Once the command runs successfully, Streamlit will start a local server and provide a URL like this:

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Local URL: http://localhost:8501

Network URL: http://<your-ip>:8501

Open this link in your web browser to access the app.

**Step 3: Common Issues and Fixes**

**1. Streamlit Not Found**

If you get an error like *"command not found: streamlit"*:

* Ensure you’ve installed Streamlit in your active environment:

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pip install streamlit

* Verify your virtual environment is activated.

**2. Port Already in Use**

If the default port (8501) is occupied, Streamlit allows you to specify a different port:

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streamlit run app/main.py --server.port 8502

**3. File Not Found**

If the app file isn’t found, double-check the path in your streamlit run command and ensure you’re in the correct directory.

**Step 4: File Structure for Running the App**

Ensure your project is organized like this:

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AI-for-Health/

├── app/

│ ├── main.py # Main Streamlit app script

│ ├── utils.py # Utility functions for preprocessing and predictions

│ ├── models/

│ │ ├── naive\_bayes\_model.pkl

│ │ ├── svm\_model.pkl

│ │ ├── kmeans\_model.pkl

│ ├── \_\_init\_\_.py # Package initializer (can be empty)

├── data/

│ ├── patient\_data.csv # Example dataset

├── requirements.txt # Dependency list

Make sure the main.py script contains the logic to:

* Accept user input (e.g., age, blood pressure, BMI).
* Preprocess the input using utils.py.
* Use the models from the models/ directory to make predictions.

**Step 5: Testing the App**

Before deployment, test the app locally by running a few test cases:

1. Enter valid inputs to check predictions.
2. Try edge cases (e.g., missing inputs) to ensure the app handles errors gracefully.
3. Verify that all visualizations, if any, are rendering properly.

**Step 6: Deployment (Optional)**

If you’re happy with the local version, you can deploy the app to a platform like:

1. **Streamlit Community Cloud** (Free):
   * Upload your project to GitHub.
   * Deploy directly from GitHub.
2. **Heroku** or **AWS**:
   * Package your app with a Dockerfile for deployment.