Here’s a detailed **12-week plan** to help you systematically build the **AI-Powered DevOps Dashboard** project:

**Week 1-2: Frontend Basics**

**Goal:** Learn HTML, CSS, JavaScript, and build a basic dashboard UI.

**Tasks:**

1. Learn:
   * **HTML & CSS:** Build responsive layouts.
   * **JavaScript:** Learn DOM manipulation, events, and APIs.
2. Build:
   * A static webpage with a basic dashboard layout (sidebar, header, and main area).
   * Include placeholders for charts and real-time data updates.

**Resources:**

* [HTML & CSS by FreeCodeCamp](https://www.freecodecamp.org/).
* [JavaScript for Beginners](https://javascript.info/).

**Week 3-4: Backend Basics**

**Goal:** Learn Flask/Node.js, build REST APIs, and connect the backend to the frontend.

**Tasks:**

1. Learn:
   * Flask basics (routes, templates) or Node.js basics (Express).
   * REST API concepts (GET, POST).
2. Build:
   * A simple API to serve mock data (e.g., system performance metrics).
   * Fetch and display this data on the frontend using fetch() or Axios.

**Resources:**

* [Flask Mega-Tutorial](https://blog.miguelgrinberg.com/).
* [Node.js Guide](https://nodejs.dev/).

**Week 5-6: AI/ML Basics**

**Goal:** Learn Python, data manipulation, and train a basic ML model.

**Tasks:**

1. Learn:
   * Python basics, Pandas, and NumPy for data analysis.
   * Scikit-learn for training simple models (e.g., linear regression).
2. Build:
   * Train a basic model to detect anomalies in system metrics (e.g., CPU usage).
   * Save the model and create an API endpoint to serve predictions.

**Resources:**

* [Python for Beginners](https://www.learnpython.org/).
* [Scikit-learn Tutorials](https://scikit-learn.org/stable/).

**Week 7-8: Frontend and Backend Advanced**

**Goal:** Enhance the dashboard and integrate the AI model.

**Tasks:**

1. Frontend:
   * Learn React basics (components, props, hooks).
   * Use a chart library like Chart.js or D3.js to visualize data.
2. Backend:
   * Connect the AI model to the backend.
   * Create endpoints for fetching predictions and sending alerts.

**Resources:**

* [React Docs](https://react.dev/).
* [Chart.js Guide](https://www.chartjs.org/docs/latest/).

**Week 9: Docker and Containerization**

**Goal:** Learn Docker and containerize the application.

**Tasks:**

1. Learn:
   * Dockerfile basics and creating containers.
2. Build:
   * Containerize the frontend, backend, and AI model into separate services.

**Resources:**

* [Docker Official Docs](https://docs.docker.com/).

**Week 10: CI/CD Pipelines**

**Goal:** Automate the deployment process using GitHub Actions or Jenkins.

**Tasks:**

1. Learn:
   * Basics of CI/CD pipelines.
2. Build:
   * Set up CI/CD to build, test, and deploy your application automatically.

**Resources:**

* [GitHub Actions Guide](https://docs.github.com/en/actions).
* [Jenkins Tutorials](https://www.jenkins.io/doc/).

**Week 11-12: Cloud Deployment**

**Goal:** Deploy the app on a cloud platform using Kubernetes.

**Tasks:**

1. Learn:
   * Kubernetes basics (pods, services, deployments).
2. Build:
   * Deploy the application on AWS/GCP with Kubernetes.
   * Implement monitoring for the deployed app using cloud tools.

**Resources:**

* [Kubernetes Basics](https://kubernetes.io/docs/tutorials/kubernetes-basics/).
* [AWS Tutorials](https://aws.amazon.com/getting-started/).

**Post-Project Goals:**

* Optimize performance and add features like real-time alerts.
* Document the project on GitHub for your portfolio.

Would you like help with specific weekly tasks, resources, or any setup? Let’s kickstart! 😊

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Date: 9/12/24

Day: Monday

Learn about what is html CSS and js (introduction). What is web and how it works. Backend and frontend.

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Date: 10/12/24

Day: Tuesday

Learn which editor to use, how to create html file or how to write basic html code.

Basic tags:

meta tag: defines the info about over file

br, hr, big, sub, sup

comments