IBM DevOps and Software Engineering Professional Certificate Schedule

Detailed 6-Month Schedule for Completing IBM DevOps and Software Engineering Professional Certificate

This structured schedule will guide you in mastering each course in the IBM DevOps and Software Engineering Professional Certificate. Each section includes knowledge markers, recommended readings and chapters, projects, and challenging questions to stretch your understanding.

Month 1: Foundations

1. Software Engineering Basics for Everyone

Duration: 1 Week

Knowledge Markers:

- Understand the Software Development Life Cycle (SDLC)

- Key methodologies: Waterfall, Agile, Scrum

- Basics of version control

Recommended Resources:

- **Book:** "Software Engineering: A Practitioner's Approach" by Roger S. Pressman (Chapters 1-3)

- **Video:** "Software Engineering Full Course" by Edureka

- **Audio:** "Software Engineering Radio" podcast, Episode #478 on Agile practices

Project: Design a simple SDLC for an e-commerce platform (include all phases from requirement gathering to maintenance).

Hard Questions:

1. Explain the differences between Waterfall and Agile methodologies. Which scenarios are best suited for each?

2. Describe the role of version control in a modern software development environment.

3. Draft an example of a use case diagram for a library management system.

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2. DevOps Basics for Everyone

Duration: 1 Week

Knowledge Markers:

- Definition and key principles of DevOps

- CI/CD pipelines: purpose and components

- Key DevOps tools overview (Jenkins, Docker, Kubernetes)

Recommended Resources:

- **Book:** "The DevOps Handbook" (Introduction, Chapters 1-3)

- **Video:** "DevOps Tutorial for Beginners" by Simplilearn

- **Audio:** "The DevOps Lab" podcast, Episode #101 on CI/CD Best Practices

Project: Implement a CI/CD pipeline for a simple Node.js application using GitHub Actions.

Hard Questions:

1. Explain the differences between Continuous Integration, Continuous Delivery, and Continuous Deployment.

2. What are the primary benefits of implementing DevOps in an organization? Provide examples.

3. Design a CI/CD pipeline flow diagram for a Python web application.

... (Content continues similarly for all sections)