



I am a software developer and I am preparing for "AWS Certified Developer Associate". I want to use perplexity to prepare for the exams. I have the following goals

1. Prepare for each topic that is asked in the exam
2. I want perplexity to ask me questions on each topic, and I will answer. If I make any mistake, correct it and explain.

Create a detailed road map to achieve this

Of course. Here is a detailed roadmap to help you prepare for the AWS Certified Developer - Associate exam. This plan is designed to be interactive. For each topic, I will ask you questions, and if you make a mistake, I will provide corrections and explanations.

Roadmap for AWS Certified Developer - Associate Exam Preparation

The exam is broken down into four main domains. We will tackle them one by one.

Domain 1: Development with AWS Services (32% of Exam)

This is the largest portion of the exam, focusing on how to develop applications using core AWS services.

- **Topic 1: Core AWS Services (Compute, Storage, & Database)**
 - **Interactive Session 1: Compute Services:** We'll start with Amazon EC2 (Elastic Compute Cloud), AWS Lambda, and AWS Elastic Beanstalk. I'll ask you about their use cases, how to configure them, and best practices for deploying applications.
 - **Interactive Session 2: Storage Services:** We will cover Amazon S3 (Simple Storage Service) and Amazon EBS (Elastic Block Store). Our questions will focus on storage classes, performance, and security.
 - **Interactive Session 3: Database Services:** This session will cover Amazon RDS (Relational Database Service) and Amazon DynamoDB. We'll explore data models, when to use each service, and how to interact with them programmatically.
- **Topic 2: Serverless Application Development**
 - **Interactive Session 4: Amazon API Gateway:** I will present scenarios for building RESTful APIs and ask you how to use API Gateway, including integrations with AWS Lambda.

- **Interactive Session 5: AWS Lambda:** We'll dive deep into writing, deploying, and managing Lambda functions. Questions will cover event sources, execution roles (IAM), and performance optimization.
- **Interactive Session 6: AWS Step Functions:** I'll give you a complex workflow, and you'll need to explain how to orchestrate it using Step Functions.
- **Topic 3: Interacting with AWS Services**
 - **Interactive Session 7: AWS SDKs:** I'll ask you to describe how you would use an AWS SDK (like Boto3 for Python or the AWS SDK for Java) to perform tasks with services like S3 or SQS (Simple Queue Service).
 - **Interactive Session 8: AWS CLI:** I will give you common operational tasks and ask you to provide the appropriate AWS Command Line Interface (CLI) commands.

Domain 2: Security (26% of Exam)

Security is critical in the cloud. This domain covers how to secure your applications and data.

- **Topic 4: Identity and Access Management (IAM)**
 - **Interactive Session 9: IAM Roles, Policies, and Users:** I'll provide you with application scenarios, and you will need to define the most secure and appropriate IAM roles and policies.
- **Topic 5: Securing Applications and Data**
 - **Interactive Session 10: Encryption:** We will discuss AWS KMS (Key Management Service), comparing client-side vs. server-side encryption, and how to protect data at rest and in transit.
 - **Interactive Session 11: Secure Credential Handling:** I'll ask about best practices for managing credentials in your code, using services like AWS Secrets Manager and AWS Systems Manager Parameter Store.

Domain 3: Deployment (22% of Exam)

This domain focuses on deploying your applications to AWS.

- **Topic 6: CI/CD (Continuous Integration/Continuous Deployment)**
 - **Interactive Session 12: AWS CI/CD Tools:** We'll cover AWS CodeCommit, AWS CodeBuild, AWS CodeDeploy, and AWS CodePipeline. I'll ask you to design a simple CI/CD pipeline.
- **Topic 7: Infrastructure as Code (IaC)**
 - **Interactive Session 13: AWS CloudFormation and AWS SAM:** I will give you application requirements, and you will describe the structure of a CloudFormation or SAM (Serverless Application Model) template to provision the necessary resources.

Domain 4: Troubleshooting and Optimization (20% of Exam)

The final domain covers how to monitor, debug, and optimize your AWS applications.

- **Topic 8: Monitoring and Debugging**
 - **Interactive Session 14: Amazon CloudWatch and AWS X-Ray:** I'll describe a failing application, and you'll explain how to use CloudWatch Logs, Metrics, and X-Ray to find

the root cause.

- **Topic 9: Application Optimization**

- **Interactive Session 15: Performance and Cost Optimization:** I will present an application architecture and ask you to identify potential performance bottlenecks and opportunities for cost savings.

Now that the roadmap is laid out, we can begin.

Are you ready to start with **Domain 1, Topic 1: Core AWS Services**? We'll begin with our first interactive session on **Compute Services**.