

Here's a detailed 3-4-month mentorship plan for your mentee to start a career as a cloud & devops engineer:

Month 1: Foundational Skills & IT Basics

Week 1: Introduction to Cloud Engineering & IT Fundamentals

- **Session (1.5 hours):**
 - Overview of cloud engineering roles and career paths.
 - Introduction to fundamental IT concepts: Networking, Operating Systems
 - Time management strategies for effective learning.
- **Assignments:**
 - Study basic networking concepts (IP addresses, DNS, TCP/IP).
 - Set up a Linux environment and practice basic commands.
 - Introduction to Python programming: Variables, data types, loops, and functions.

Week 2: Linux Scripting & Basic Python

- **Session (1.5 hours):**
 - Introduction to Linux scripting: Shell scripting basics.
 - Python programming: Basic syntax, functions, and data structures.
- **Assignments:**
 - Write shell scripts for automating tasks in Linux.
 - Practice Python exercises focusing on loops, conditions, and functions.

Week 3: Cloud Computing Concepts & AWS Basics

- **Session (1.5 hours):**
 - Introduction to cloud computing: IaaS, PaaS, SaaS.
 - Overview of AWS and commonly used services: EC2, S3, IAM, VPC, RDS.
 - Q&A Session for the week sessions
- **Assignments:**
 - Set up a free-tier AWS account.
 - Launch an EC2 instance and configure basic settings.
 - Store and retrieve data using S3.

Week 4: Virtual Machines & Cloud Storage

- **Session (1.5 hours):**
 - Deep dive into virtual machines (EC2) and cloud storage options (S3, EBS).
 - Understanding block storage, object storage, and file systems in the cloud.

- **Assignments:**
 - Experiment with different storage types and their use cases.
 - Configure and manage EC2 instances with different storage configurations.

Month 2: Intermediate Cloud Skills & AWS Services

Week 5: Networking in the Cloud

- **Session (1.5 hours):**
 - Study AWS VPC, Subnets, Route Tables, and Security Groups.
 - Advanced networking concepts: Load Balancers, NAT gateways, VPNs
 - Implementing basic cloud networking concepts.
- **Assignments:**
 - Design and configure a VPC with multiple subnets and route tables.

Week 6: Cloud Security & Compliance

- **Session (1.5 hours):**
 - Introduction to cloud security: Encryption, firewalls, security best practices.
 - Q&A Session
- **Assignments:**
 - Study AWS compliance documentation and its application.

Week 7: Identity and Access Management (IAM)

- **Session (1.5 hours):**
 - In-depth study of IAM: Roles, Policies, Permissions.
 - Best practices for managing access and identity in the cloud.
- **Assignments:**
 - Create and manage IAM roles and policies for different scenarios.

Week 8: Databases & Serverless Computing

- **Session (1.5 hours):**
 - Overview of cloud databases: RDS, DynamoDB, and their use cases.
 - Introduction to serverless computing: AWS Lambda.
- **Assignments:**
 - Deploy and connect an RDS instance with an EC2 instance.
 - Write a simple serverless function using AWS Lambda.

Month 3: Containerization & Devops

Week 9: Containerization with Docker and Kubernetes

- **Session (2.5 hours):**
 - Introduction to Docker: Containers, Images, Dockerfile.
 - Building and deploying Docker containers.
 - Introduction to Kubernetes: Pods, Services, Deployments.
 - Q&A Session
- **Assignments:**
 - Create Docker images and containers.
 - Set up a local Kubernetes cluster using Minikube.

Week 10: DevOps Principles, CI/CD & IAC

- **Session (2.5 hours):**
 - Introduction to DevOps: CI/CD pipelines, Infrastructure as Code (IaC).
 - Introduction to Terraform: Basics of IaC, Terraform syntax.
 - AWS Infrastructure with terraform.
- **Assignments:**
 - Create a basic CI/CD pipeline using any CICD tool.
 - Write Terraform scripts to provision AWS resources.

Week 11: Monitoring & Logging in the Cloud

- **Session (2 hours):**
 - Introduction to cloud monitoring tools: AWS CloudWatch, CloudTrail, ELK stack.
 - Setting up alerts and logs for cloud infrastructure.
 - Q&A Session
- **Assignments:**
 - Configure AWS CloudWatch for monitoring EC2 instances.

Week 12: Practical Cloud Projects

- **Session (2 hours):**
 - Guidance on selecting and starting practical projects.
 - Discussing project architecture, design, and implementation.
- **Assignments:**
 - Start working on a cloud project using the services learned.
 - Document the project, including architecture diagrams and code.

Month 4: Finalizing Projects & Job Readiness

Week 13: Resume Review & LinkedIn Optimization

- **Session (1.5 hours):**
 - Detailed resume review tailored for cloud engineering roles.
 - Optimizing LinkedIn profile for job opportunities.
- **Assignments:**
 - Update and refine your resume.
 - Apply LinkedIn optimization techniques discussed in the session.

Week 14: Mock Interviews & Cover Letter Writing

- **Session (1.5 hours):**
 - Conducting mock interviews with common cloud engineering questions.
 - Crafting an effective cover letter tailored to job applications.
- **Assignments:**
 - Prepare and practice for technical interviews using mock interview feedback.
 - Draft and refine cover letters for specific job roles.

Week 15: Job Application Strategy & Final Preparation

- **Session (1.5 hours):**
 - Strategies for applying to cloud engineering roles.
 - Final tips on interview preparation, networking, and job search.
- **Assignments:**
 - Begin applying to relevant job postings.
 - Continue practicing interview questions and technical challenges.