

Site Reliability Engineering (SRE) Foundation

Course Duration: 16 Hours (2 Days)

Overview

The Site Reliability Engineering (SRE) Foundation course is a structured program designed to introduce the principles and practices of SRE to professionals in the IT domain. It focuses on the core philosophy of SRE, which is to create scalable and highly reliable software systems. Module 1 sets the stage with course goals and an overview of the agenda, while Module 2 delves into the essence of SRE, its relationship with DevOps, and key SRE practices. Module 3 teaches about Service Level Objectives and Error Budgets, essential tools for reliability measurement. Module 4 tackles the concept of toil and its reduction, whereas Module 5 covers monitoring and Service Level Indicators. Module 6 is dedicated to tools and automation strategies that enhance SRE functions. In Module 7, learners explore the importance of learning from failures and developing anti-fragility. Module 8 examines SRE's organizational impact, and finally, Module 9 looks at the interaction of SRE with other frameworks and its future. This course is an essential part of reliability engineering courses and provides comprehensive reliability engineer training to equip individuals with the skills to maintain and improve the reliability of their services.

Audience Profile

The Site Reliability Engineering (SRE) Foundation course is designed for IT professionals focused on reliability and uptime of software services.

- Site Reliability Engineers
- DevOps Engineers
- IT Operations Staff
- Software Engineers
- System Administrators
- Infrastructure Engineers
- Release Engineers
- Cloud Professionals
- Technical Managers
- Product Managers with a technical background
- Quality Assurance Engineers
- Security Professionals involved in reliability and stability of software services
- Technical Project Managers overseeing software projects
- Technical Leads and Architects responsible for system design with reliability in mind

Course Syllabus

Course Introduction

- Course Goals
- Course Agenda

Module 1: SRE Principles & Practices

- What is Site Reliability Engineering?
- SRE & DevOps: What is the Difference?
- SRE Principles & Practices

Module 2: Service Level Objectives & Error Budgets

- Service Level Objectives (SLO's)
- Error Budgets
- Error Budget Policies

Module 3: Reducing Toil

- What is Toil?
- Why is Toil Bad?
- Doing Something About Toil

Module 4: Monitoring & Service Level Indicators

- Service Level Indicators (SLI's)
- Monitoring
- Observability

Module 5: SRE Tools & Automation

- Automation Defined
- Automation Focus
- Hierarchy of Automation Types
- Secure Automation
- Automation Tools

Module 6: Anti-Fragility & Learning from Failure

- Why Learn from Failure
- Benefits of Anti-Fragility
- Shifting the Organizational Balance

Module 7: Organizational Impact of SRE

- Why Organizations Embrace SRE
- Patterns for SRE Adoption
- On-Call Necessities
- Blameless Post-Mortems
- SRE & Scale
- Module 8: SRE, Other Frameworks, The Future
- SRE & Other Frameworks
- The Future
- Additional Sources of Information
- Exam Preparations
- Exam Requirements, Question Weighting, and Terminology List
- Sample Exam Review