



Site Reliability Engineering (SRE) Foundation

Devops

- **Nível:**
- **Duração:** 18h

Sobre o curso

The Site Reliability Engineering (SRE) Foundation course introduces a range of practices for improving service reliability through a mixture of automation, working methods and organizational re-alignment. Tailored for those focused on large-scale service availability.

Today's organizations deal with a higher volume of change in a more complex tech environment leading to a higher risk of outages and incidents. IT teams must improve service reliability and system resiliency. With automation and observability becoming key factors for more efficient and rapid deployments, the SRE profile has become one of the fastest-growing job roles.

The SRE (Site Reliability Engineering) Foundation course is an introduction to the principles & practices that enable an organization to reliably and economically scale critical services. Introducing a site-reliability dimension requires organizational re-alignment, a new focus on engineering & automation, and the adoption of a range of new working paradigms.

The course highlights the evolution of SRE and its future direction, and equips participants with the practices, methods, and tools to engage people across the organization involved in reliability and stability evidenced through the use of real-life scenarios and case stories. Upon completion of the course, participants will have tangible takeaways to leverage when back in the office such as understanding, setting and tracking Service Level Objectives (SLO's).

The course was developed by leveraging key SRE sources, engaging with thought-leaders in the SRE space and working with organizations embracing SRE to extract real-life best practices and has been designed to teach the key principles & practices necessary for starting SRE adoption.

This course positions learners to successfully complete the SRE Foundation certification exam. The exam is included in this course: participants must redeem the exam voucher and schedule their exam within 60 days of the beginning of the course.

Included:

- Sixteen (18) hours of instructor-led training and exercise facilitation

- Learner Manual (excellent post-class reference) including:
 - Course slideware
 - Value Added Resources
 - Glossary
- Participation in exercises and discussions designed to apply concepts
- Case stories
- Access to additional sources of information and communities
- Exam Voucher

Certification Exam

Web-based, open book examination, consisting of 40 multiple-choice questions with a 60 minute duration. Successful passing (65% score) leads to the SRE (Site Reliability Engineering) Foundation certificate. The certification is governed and maintained by the DevOps Institute

Benefits for Individuals

- Improved work balance with ring-fenced time for improvement
- Less stressful on-call experiences and a reduction in overall call-out volumes
- Broader skills-based capabilities that leverage the latest in automation
- Improvement in workplace culture
- Opportunities for “shifting left” and helping to ensure development teams deliver more reliable services

Benefits for Organizations

- Enhanced stability and reliability of services
- Better understanding of how production services work
- Increased balance between technical investment in reliability and customer experience
- Greater appreciation of the operational impact of services in development teams
- Improvements in staff morale and retention

Destinatários

The target audience for the SRE Foundation course are professionals including:

- Anyone starting or leading a move towards increased reliability
- Anyone interested in modern IT leadership and organizational change approaches
- Business Managers
- Business Stakeholders
- Change Agents
- Consultants
- DevOps Practitioners
- IT Directors
- IT Managers

- IT Team Leaders
- Product Owners
- Scrum Masters
- Software Engineers
- Site Reliability Engineers
- System Integrators
- Tool Providers

Objetivos

The learning objectives for the SRE Foundation course include a practical understanding of:

- The history of SRE and its emergence at Google
- The inter-relationship of SRE with DevOps and other popular frameworks
- The underlying principles behind SRE
- Service Level Objectives (SLO's) and their user focus
- Service Level Indicators (SLI's) and the modern monitoring landscape
- Error budgets and the associated error budget policies
- Toil and its effect on an organization's productivity
- Some practical steps that can help to eliminate toil
- Observability as something to indicate the health of a service
- SRE tools, automation techniques and the importance of security
- Anti-fragility, our approach to failure and failure testing
- The organizational impact that introducing SRE brings

Pré-requisitos

- An understanding and knowledge of common DevOps terminology and concepts and related work experience are recommended.

Programa

- Course Introduction
- SRE Principles & Practices
- Service Level Objectives & Error Budgets
- Reducing Toil
- Monitoring & Service Level Indicators
- SRE Tools & Automation
- Anti-Fragility & Learning from Failure
- Organizational Impact of SRE
- SRE, Other Frameworks, The Future
- Additional Sources of Information

- Exam Preparations

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