DevOps Institute

SRE Practitioner℠
Certification eLearning Course Description

Introduces a range of practices for advancing service reliability engineering through a mixture of automation, organizational ways of working and business alignment. Tailored for those focused on large-scale service scalability and reliability.

DURATION: Approximately 3-4 hours
ACCESS: Learners will have 90 days access to the online course

OVERVIEW

The SRE (Site Reliability Engineering) Practitioner eLearning course introduces ways to scale services economically and reliably in an organization. It explores strategies to improve agility, cross-functional collaboration, and transparency of health of services towards building resiliency by design, automation, and closed loop remediations.

The eLearning course aims to equip participants with the practices, methods, and tools to engage people across the organization involved in reliability 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 implementing SRE models that fit their organizational context, building advanced observability in distributed systems, building resiliency by design and effective incident responses using SRE practices.

The eLearning course is 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 Practitioner certification exam.

COURSE OBJECTIVES

At the end of the course, the following learning objectives are expected to be achieved:

1. Practical view of how to successfully implement a flourishing SRE culture in your organization.
2. The underlying principles of SRE and an understanding of what it is not in terms of anti-patterns, and how you become aware of them to avoid them.
3. The organizational impact of introducing SRE.
4. Acing the art of SLIs and SLOs in a distributed ecosystem and extending the usage of Error Budgets beyond the normal to innovate and avoid risks.
5. Building security and resilience by design in a distributed, zero-trust environment.
6. How do you implement full stack observability, distributed tracing and bring about an Observability-driven development culture?
7. Curating data using AI to move from reactive to proactive and predictive incident management. Also, how you use DataOps to build clean data lineage.

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8. Why is Platform Engineering so important in building consistency and predictability of SRE culture?
9. Implementing practical Chaos Engineering.
10. Major incident response responsibilities for an SRE based on incident command framework, and examples of anatomy of unmanaged incidents.
11. Perspective of why SRE can be considered as the purest implementation of DevOps.
12. SRE Execution model
13. Understanding the SRE role and understanding why reliability is everyone's problem.
14. SRE success story learnings

AUDIENCE

The target audience for the SRE eLearning Practitioner course are professionals including:

- Anyone focused on large-scale service scalability and 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

LEARNER MATERIALS

- Approximately 3-4 hours of learning videos
- Sample exams
- DevOps glossary
- Access to additional value-added resources and communities

PREREQUISITES

It is highly recommended that learners attend the SRE Foundation course with an accredited DevOps Institute Education Partner and earn the SRE Foundation certification prior to attending the SRE Practitioner course and exam. An understanding and knowledge of common SRE terminology, concepts, principles, and related work experience are recommended.

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CERTIFICATION EXAM

Successfully passing (65%) the 90-minute examination, consisting of 40 multiple-choice questions, leads to the SRE Practitioner Certificate. The certification is governed and maintained by the DevOps Institute.

COURSE OUTLINE

- **Course Introduction (8 min)**
  - Course Goals
  - Course Agenda
- **Module 1: SRE Anti-Patterns (22 min)**
  - Break the Ice with a Recap of DevOps Institute's SRE Blueprint
  - SRE Works in a Distributed Ecosystem
  - A few SRE Anti-Patterns & Right Patterns
- **Module 2: SLO is a Proxy for Customer Happiness (22 min)**
  - Who has Changed with SLO?
  - Identifying System Boundaries for Setting SLIs is Critical
  - How do you use Error Budgets Beyond the Velocity vs. Stability Debate?
- **Module 3: Building Secure and Reliable Systems (38 min)**
  - Building Secure and Reliable Systems
  - Non-Abstract Large-Scale Design
  - Designing for the Changing Architecture and Distributed Ecosystem
  - Fault Tolerant Design
  - Designing for Security
  - Designing for Resiliency
- **Module 4: Full-Stack Observability (21 min)**
  - Modern Apps are Complex & Unpredictable
  - Slow is the New Down
  - Pillars of Observability
  - Using Open Telemetry
- **Module 5: Platform Engineering and AIOPs (15 min)**
  - Taking a Platform Centric View
  - How do you use AIOps to Improve Resiliency?
  - How can DataOps Help you in the Journey?
  - A Simple Recipe to Implement AIOps
  - Indicative Measurement of AIOps
- **Module 6: SRE & Incident Response Management (18 min)**
  - SRE Key Responsibilities towards Incident Response
  - DevOps & SRE and ITSM (new vs. old ways)
  - OODA and SRE Incident Response
  - Swarming- Food for Thought
  - AI/ML for better Incident Management

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- **Module 7: Chaos Engineering (19 min)**
  - Navigating Complexity
  - Chaos Engineering Defined
  - Quick Facts
  - Chaos Monkey Origin Story
  - Who is Adopting Chaos Engineering?
  - Myths of Chaos
  - Chaos Engineering Experiments
  - Chaos Engineering Resources
- **Module 8: SRE is the Purest form of DevOps (29 min)**
  - Key Principles of SRE
  - SRE Helps Increase Reliability across the Spectrum
  - Metrics for Success
  - SRE Execution Models
  - Culture and Behavioral Skills are Key
  - Transformation after Implementing SRE Practices
- Additional Sources of Information
- Exam Preparation Materials
  - Exam Requirements, Question Weighting, and Terminology List
  - Sample Exam Review