

CERTIFIED SITE RELIABILITY ENGINEER FOUNDATION

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GSDC's SRE (Site Reliability Engineer) Foundation Certification is a roadmap to the principles & practices that allows an organization to reliably and economically scale critical services.



ABOUT CERTIFICATION

The course content of this certification revolves around the evolution of SRE and its future direction and empowers the 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. After the completion of this certification, participants will have tangible take aways to leverage when back in the office such as understanding, setting and tracking Service Level Objectives (SLO's).

The certification is curated with the fundamentals of key SRE sources, engaging with thought-leaders in the SRE space and working with organizations embracing SRE to extract real-life best practices and aims towards spreading knowledge about the key principles & practices necessary for starting SRE adoption.

OBJECTIVES

The objective of the SRE Foundation includes a deep 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

Our Accreditation:



The Global Skill Development Council (GSDC) is the leading third-party, Vendor-neutral, international credentialing and certification organization. The Global Skill Development Council (GSDC) is proud to be ANSI Accredited Member. The American National Standards Institute (ANSI) is a private, non-profit organization that administers and coordinates the U.S. voluntary standards and conformity assessment system.

COURSE SYLLABUS

1. SRE Overview

- ✓ Introduction
- ✓ The Production Environment From the Viewpoint of an SRE
- ✓ Exercise: Mapping Your Production Environment

2. Principles of SRE

- ✓ Embracing Risk
- ✓ Measuring Service Risk
- ✓ Motivation for Error Budgets
- ✓ Service-Level Objectives
- ✓ Indicators in Practice
- ✓ Objectives in Practice
- ✓ Agreements in Practice
- ✓ Eliminating Toil
- ✓ Monitoring Distributed Systems
- ✓ The Four Golden Signals
- ✓ Worrying About Your Tail
- ✓ Choosing an Appropriate Resolution for Measurements
- ✓ As Simple as Possible, No Simpler
- ✓ Tying These Principles Together
- ✓ Monitoring for the Long Term
- ✓ The Evolution of Automation
- ✓ The Value of Automation
- ✓ Use Cases for Automation
- ✓ Automate Yourself Out of a Job
- ✓ Soothing the Pain: Applying Automation to Cluster Turnups
- ✓ Borg: Birth of the Warehouse-Scale Computer
- ✓ Reliability is the Fundamental Feature
- ✓ Release Engineering
- ✓ The Role of a Release Engineer
- ✓ Configuration Management
- ✓ Simplicity
- ✓ The Virtue of Boring
- ✓ The "Negative Lines of Code" Metric
- ✓ Minimal APIs
- ✓ Managing Risk
- ✓ Risk Tolerance of Services
- ✓ Service Level Terminology
- ✓ Why Monitor?
- ✓ System Stability Versus Agility
- ✓ I Won't Give Up My Code!
- ✓ Modularity
- ✓ Release Simplicity

3. Practices of SRE

- ✓ Practical Alerting
- ✓ Being On-Call
- ✓ Effective Troubleshooting
- ✓ Emergency Response
- ✓ Managing Incidents
- ✓ Postmortem Culture: Learning from Failure
- ✓ Tracking Outages
- ✓ Testing for Reliability
- ✓ Software Engineering in SRE
- ✓ Load Balancing at the Front End
- ✓ Load Balancing in the Datacenter
- ✓ Handling Overload
- ✓ Addressing Cascading Failures
- ✓ Managing Critical State: Distributed Consensus for Reliability
- ✓ Distributed Periodic Scheduling with Cron
- ✓ Data Processing Pipelines
- ✓ Data Integrity: What You Read Is What You Wrote
- ✓ Reliable Product Launches at Scale

4. Management in SRE

- ✓ Accelerating SREs to On-Call and Beyond
- ✓ Dealing with Interrupts
- ✓ Embedding an SRE to Recover from Operational Overload
- ✓ Communication and Collaboration in SRE
- ✓ The Evolving SRE Engagement Model

EXAMINATION

- ✓ Ensure that you have filled up the basic details.
- ✓ This exam consists of 40 multiple-choice questions.
- ✓ Candidates need to score a minimum of 65% of the total marks (i.e. 26 out of 40) to pass this examination.
- ✓ The total duration of this examination is 90 minutes.
- ✓ Candidate should Tick against only one correct answer in Multiple Choice Questions.
- ✓ There is no negative marking system applicable to this examination.
- ✓ In case the participant does not score passing % then they will be granted a 2nd attempt at no additional cost. Re-examination can be taken up to 30 days from the date of the 1st exam attempt.



GSDC Technical Advisory Board :

The GSDC is the leading certification association which brings together innovative organizations and founding thought-leaders as Technical Advisors from over 40 countries to design curriculum on Blockchain, Devops, Six Sigma & Agile Certifications.

Further Information:

Target Audience

- Anyone starting or leading a move towards increased reliability
- Anyone interested in modern IT leadership and organizational change approaches
- Business Managers
- Business Stakeholders
- IT Team Leaders
- Product Owners
- Site Reliability Engineers
- DevOps Practitioners
- IT Directors, IT Managers
- Tool Providers
- Scrum Masters
- System Integrators
- Change Agents
- Consultants
- Software Engineers

Certification Available:

- Ethereum developer
- Blockchain Architect
- Hyperledger Developer

You may also be interested in:

- Lean Six Sigma
- DevOps Practitioner

Find out more online at www.gsdcouncil.org