

Advanced Go

TRAINER

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OVERVIEW

This workshop aims at equipping the participants with the necessary knowledge and skills required to build and manage applications in Go

OBJECTIVES

At the end of this training course, the participants will be able to:

- Build GRPC applications in Go
- Write efficient unit tests
- Do performance engineering using micro-benchmarking and profiling
- Building and deploying Docker containers for Go applications

SUGGESTED AUDIENCE

Software developers who want to build best-of-breed applications in Go

DURATION

2 Days

PARTICIPANT PREREQUISITES

- Should have foundational knowledge in Go
- Preferably attended the “Foundation Go” class

INFRASTRUCTURE REQUIREMENTS

- Go Tools
- Chrome
- Sublime Text / Visual Studio Code / Any other editor
- Any GIT client
- Internet Connection (Mandatory)

CASE STUDY

Agenda

- GRPC
 - Protocol Buffers
 - Designing Contracts
 - Generating Proxy & Stub
 - Hosting GRPC Services
 - Communication Patterns in GRPC
 - o Request & Response

- o Client Streaming
 - o Server Streaming
 - o Bidirectional Streaming
- Go Generics
 - o Overview
 - o Creating Generic Types
 - o Type Constraints
 - o Type Parameters & Type Sets
 - o Type Inference
- Reflection Package
 - o Overview
 - o Reflection types
 - o Accessing struct tags
- Go binary size optimisation
 - o Build flags
- Performance Engineering
 - o Micro Benchmarking
 - o Go profiling tools
 - o Profiling CPU
 - o Profiling Memory
 - o Analyzing Profile Data using “pprof”
 - Garbage Collector
 - Memory Allocations
 - Goroutines
 - Execution Time
- Go and Docker
 - o Building Go Docker Image
 - o Running the Docker container
 - o Multi-stage docker builds for Go applications