



GO Programming Training Certification Course Outline

Module 1: Introduction to Go

- First, learn what Go language is and why it is fast.
- Next, explore where Go is used in real projects.
- Then, install Go on your computer.
- Finally, run your first “Hello, World!” program.

Module 2: Go Basics

- First, understand variables and constants in Go.
- Next, learn basic data types like int, string, and bool.
- Then, try simple arithmetic and printing results.
- Finally, run small programs to practice.

Module 3: Operators in Go

- First, learn arithmetic operators +, -, *, /.
- Next, explore comparison operators like ==, !=, >, <.
- Then, try logical operators &&, ||, !.
- Finally, combine operators in small programs.

Module 4: Control Flow – If Else

- First, learn how to use if statements.
- Next, add else and else if for multiple conditions.
- Then, write programs that check numbers or strings.
- Finally, test different scenarios for practice.

Module 5: Loops in Go

- First, learn for loop for repeating tasks.
- Next, try nested loops for advanced logic.
- Then, practice break and continue statements.
- Finally, run small programs to check outputs.

Module 6: Functions in Go

- First, define simple functions to reuse code.
- Next, pass parameters to functions for flexibility.
- Then, return values from functions to use later.
- Finally, call functions in main program.

Module 7: Arrays & Slices

- First, create arrays to store multiple values.
- Next, learn slices for flexible collections.
- Then, access and modify elements easily.
- Finally, loop through arrays or slices for practice.

Module 8: Maps in Go

- First, learn maps to store key-value pairs.
- Next, add, update, and delete map elements.
- Then, check if keys exist using conditions.
- Finally, loop through maps to print all items.

Module 9: Structs & Methods

- First, create structs to group related data.
- Next, add methods to structs for actions.
- Then, access struct fields and call methods.
- Finally, practice with real examples.

Module 10: Packages & Modules

- First, learn to import standard Go packages.
- Next, use modules to organize your projects.
- Then, explore third-party packages with go get.
- Finally, run programs using multiple packages.

Module 11: Error Handling & Pointers

- First, check errors returned by functions.
- Next, learn defer, panic, and recover for safety.
- Then, use pointers to access memory addresses.
- Finally, combine pointers and functions in small programs.

Module 12: Certification & Final Project

- First, review all concepts learned in previous modules.

- Next, create a small Go project using multiple topics.
- Then, submit project and complete evaluation tasks.
- Finally, earn your **Go Programming Certificate** and plan next steps.

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