

Month	Module	Week	Topic	Sub-Topics
Month 1	Advanced Go Programming	Week 1	Go Routines and Channels	- Introduction to concurrency in Go
				- Go routines: Creating and managing
				- Channels: Communicating between Go routines
				- Buffered vs unbuffered channels
		Week 2	Error Handling in Go	- Error handling principles
				- Best practices for error handling
				- Custom error types and wrapping errors
				- Defer, Panic, and Recover
		Week 3	Structs and Interfaces	- Defining and using structs
				- Methods on structs
				- Introduction to interfaces
				- Embedding interfaces and structs
Month 2	Introduction to Backend Development	Week 4	Concurrency Patterns in Go	- Common concurrency patterns
				- Select statement and its usage
				- Worker pools
				- Context package for cancellation and timeouts
		Week 5	Web Servers	- Introduction to web servers
				- Building a simple HTTP server in Go
				- Handling routes and requests
				- Serving static files
		Week 6	RESTful APIs	- REST principles and best practices
				- Designing RESTful endpoints
				- Handling JSON in Go
				- Creating and consuming RESTful APIs
		Week 7	Middleware in Go	- Understanding middleware
				- Implementing logging and authentication middleware
				- Chaining middleware functions
				- Performance considerations
			Authentication	- Introduction to authentication mechanisms
				- JWT (JSON Web Tokens) basics
				- Implementing JWT authentication in Go
				- Securing APIs with authentication
			Database Connections	- Overview of relational databases (PostgreSQL/MySQL)
				- Connecting to a database using Go

Month 3	Database Interaction	Week 8	Database Connections	- Executing basic SQL queries from Go
				- Handling database connections and errors
			ORMs & Migrations	- Introduction to ORMs (GORM, sqlx)
				- Basic CRUD operations with ORM
				- Managing database migrations
	Advanced Backend Concepts	Week 9	Microservices & Messaging	- Best practices for database schema changes
				- Introduction to microservices architecture
				- Creating microservices in Go
				- Introduction to message queues (RabbitMQ, Kafka)
		Week 10	Caching & Security	- Implementing messaging between microservices
				- Introduction to caching strategies (Redis)
				- Implementing caching in Go
				- Secure coding practices
				- Protecting against SQL injection, XSS, and other
	Basic DevOps Practices	Week 11		- CI/CD pipelines overview, continuous integration basics
				- Deploying applications on cloud platforms (AWS/GCP/
				- Basics of containerization (Docker, Kubernetes)
2 weeks	Project	Week 12-13		