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# ChatGPT API Service Development and Function Calling Training Course

17 – 21 October 2027
Manama

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ChatGPT API Service Development and Function Calling is a 1-week training course for developers, integration engineers and technical product owners who wrap language models inside their own services, and it produces a reference API service design. Product teams increasingly expose model features through internal endpoints rather than chat windows, so request design, tool calls, cost limits and secret handling now decide reliability. Jupiter Prime Training offers ChatGPT API Service Development and Function Calling as a build-focused course.

## Why ChatGPT API Service Development and Function Calling Matters Now

Three groups shape the subject. Product owners want model features inside existing apps, portals and back-office tools. Platform and security engineers worry about leaked keys, prompt injection and runaway token bills. Finance partners ask for predictable spend per request. Services built with typed schemas, bounded tool calls and rate controls behave predictably and cost what was planned; services built ad hoc break on malformed output and drain budgets. The course uses ISO/IEC 42001, the AI management system standard, and the NIST AI Risk Management Framework AI RMF to frame logging, testing and change control for model-backed endpoints.

## Who Gains Most from ChatGPT API Service Development and Function Calling

- Backend developers who build and maintain service endpoints
- Integration engineers who connect models to business systems and data stores
- Technical product owners who define API behaviour and acceptance tests
- Platform engineers who run gateways, secrets and observability
- Quality engineers who automate regression tests for services

A product squad whose developer, integration engineer and product owner attend together gains most.

## ChatGPT API Service Development and Function Calling Capabilities

Participants practise building small, dependable services where a model call is one controlled step among many.

- Design request payloads with system messages, temperature and token limits — service owners
- Specify function schemas so the model selects and fills tool calls safely — integration leads
- Build REST endpoints that validate structured output before returning it — consuming applications
- Calculate cost per request and set rate and budget caps — finance partners

- Test services with golden datasets and contract tests — quality engineers
- Apply secret storage, input filtering and logging controls — security teams

## Key ChatGPT API Service Development and Function Calling Terms

- Function calling — A feature where the model returns a named tool and arguments for the calling code to execute.
- Structured output — A response forced to follow a supplied JSON schema, so code can parse it reliably.
- System message — The instruction that sets the model's role and rules for every turn of a request.
- Rate limit — The maximum number of requests or tokens a key may use in a period.
- Prompt injection — Malicious text that tries to override instructions or trigger unintended tool calls.
- Golden dataset — A fixed set of inputs and expected outputs used to detect regressions after changes.

## ChatGPT API Service Development and Function Calling Day by Day

### Day 1: API Foundations and Service Scope

- Authentication Keys and Project Scoping — Separating Environments and Owners
- Chat Completions Request Anatomy — Setting Messages, Temperature and Limits
- Model Selection Trade-Offs — Balancing Latency, Quality and Cost
- ISO/IEC 42001 and NIST AI RMF — Framing Logging and Change Control
- Service Contract Sketch — Defining Inputs, Outputs and Errors

### Day 2: Function Calling and Structured Output

- Function Schema Design — Describing Tools the Model May Call
- Tool Execution Loops — Returning Results for Follow-Up Reasoning
- Structured Output With JSON Schema — Enforcing Parseable Responses
- Argument Validation — Rejecting Unsafe or Malformed Tool Inputs
- Retrieval From Internal Stores — Grounding Answers in Company Records

### Day 3: Wrapping Models in REST Endpoints

- Endpoint Design and OpenAPI Specification — Publishing a Clear Interface
- Streaming Versus Batch Responses — Choosing for User Experience
- Timeouts, Retries and Back-Off — Handling Upstream Failures
- Caching and Idempotency Keys — Avoiding Duplicate Calls and Spend
- Error Mapping — Translating Model Failures Into Service Codes

### Day 4: Cost, Security and Testing

- Token Accounting and Budget Caps — Predicting Cost per Request
- Rate Limiting at the Gateway — Protecting Shared Quotas
- Prompt Injection Defences — Filtering Inputs and Bounding Tools
- Golden Datasets and Contract Tests — Catching Regressions Early
- Secret Storage and Audit Logging — Meeting Security Review Expectations

## Day 5: Practising the Reference API Service Design

- Case Service Build — Applying Request Design and Function Schemas
- Case Endpoint Hardening — Applying Retries, Caching and Error Mapping
- Case Test Suite — Applying Golden Datasets and Contract Tests
- Architecture Review Simulation — Defending Cost and Security Choices
- Reference API Service Design — Completing Specification, Tests and Runbook

## Applying ChatGPT API Service Development and Function Calling After the Course

- Refactor one existing model call into a typed endpoint with JSON schema validation and an OpenAPI specification.
- Build a golden dataset of twenty cases for that endpoint and add it to the continuous integration pipeline.

## ChatGPT API Service Development and Function Calling Questions FAQ

### What is ChatGPT API Service Development and Function Calling and why does it matter now?

It is the practice of building your own services on the ChatGPT API, using function calling and structured output so code can act on model replies. It matters now because model features are moving into everyday applications, where reliability, cost and security count.

### Which roles gain most from ChatGPT API Service Development and Function Calling?

Developers, integration engineers and technical product owners gain most. Platform and quality engineers also benefit.

### How does ChatGPT API Service Development and Function Calling differ from a no-code automation course?

It is written for people who code. A no-code automation course links ready-made connectors; this course covers request design, schemas, endpoints, rate control, testing and secure deployment in your own code base.

### What do you bring back from ChatGPT API Service Development and Function Calling?

You bring back a reference design built on a case, with an endpoint specification, function schemas, a test suite and an operations runbook.

## ChatGPT API Service Development and Function Calling: The Way Forward

The reference API service design first informs the architecture review's decision on whether a model-backed endpoint is ready for production. Developers and platform engineers then build from its patterns. After the first release, revisit budget caps and injection defences, since traffic in sectors such as e-commerce or travel often reveals new usage spikes and attack styles.