

Claude Certified Architect – Professional

Course description

Advanced certification track for architects designing large-scale, mission-critical Claude systems. The course emphasizes advanced multi-agent orchestration, enterprise governance and security, evaluation and observability, cost and performance optimization, and reliability engineering for production AI systems.

- Course level: Professional (Advanced/Expert tier)
- Duration: 3 days

Activities

Expert-level, scenario-driven architecture and design labs with enterprise case studies (~70% hands-on), including threat-modeling and hardening, evaluation and observability pipelines, high-volume workload optimization, and resilient deployment design.

Course objectives

In this course, you will learn to:

- Architect complex multi-agent and orchestrated Claude systems
- Design enterprise governance, security, and responsible-AI controls
- Build evaluation, testing, and observability for Claude systems
- Optimize cost, latency, and performance at scale
- Design for reliability, resilience, and graceful degradation

- Establish CI/CD, versioning, and lifecycle management
- Design secure MCP and tool ecosystems
- Align architecture with business and compliance goals

Intended audience

This course is intended for senior architects operating enterprise-scale Claude systems:

- Senior and Principal Solution Architects
- AI Platform and Enterprise Architects
- Technical Leads governing production AI systems
- Experienced professionals holding Architect – Foundations certification

Prerequisites

We recommend that attendees of this course have:

- Claude Certified Architect – Foundations (strongly recommended; may be required)
- Significant hands-on experience designing production Claude systems
- Strong knowledge of the Claude API, Agent SDK, MCP, and Claude Code
- Enterprise architecture, security, and governance experience
- Familiarity with CI/CD, observability, and cloud infrastructure

Course outline

Module 1: Advanced Agentic & Multi-Agent Architecture

- Multi-agent orchestration and coordination patterns
- Parallel and hierarchical agent workflows
- Complex tool ecosystems and dynamic routing
- Advanced guardrails and failure-mode design
- Lab: Design a multi-agent system with orchestration and guardrails

Module 2: Enterprise Governance, Security & Responsible AI

- Identity, access, and secrets management
- Data governance, privacy, and compliance
- Threat modeling: prompt injection, tool abuse, and data exfiltration
- Responsible-AI policy, auditing, and controls
- Lab: Threat-model and harden an enterprise Claude deployment

Module 3: Evaluation, Testing & Observability

- Designing evals and golden datasets

- Automated testing and regression detection for LLM systems
- Tracing, logging, and observability for agents
- Quality, safety, and drift monitoring in production
- Lab: Build an evaluation and observability pipeline for an agent

Module 4: Performance, Cost & Scalability Optimization

- Model selection and routing for cost and performance
- Advanced prompt caching and context strategies
- Throughput, concurrency, and rate-limit architecture
- Cost/benefit analysis and ROI-driven design
- Lab: Optimize a high-volume Claude workload for cost and latency

Module 5: Reliability & Production Lifecycle Management

- Resilience, retries, fallbacks, and graceful degradation
- Deployment, versioning, and rollback strategies
- CI/CD for prompts, tools, and agents
- Lifecycle management, monitoring, and continuous improvement
- Lab: Design a resilient deployment and rollback strategy

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