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Claude Certified Architect Foundations (CCAR-F) Certification Training

2 days (14 hours)

Overview

Claude enables the design of intelligent applications combining agent-based architecture, MCP tools, and structured outputs. The official Claude Certified Architect Foundations (CCAR-F) certification validates the skills required to build reliable Claude solutions, configure development workflows, and justify technical choices tailored to business needs.

Our Claude Certified Architect Foundations (CCAR-F) Certification Training will help you prepare for the official exam by following a step-by-step curriculum organized around the five domains of the certification framework and their respective weightings.

You will learn how to manage an agent-based loop, integrate services using MCP, configure Claude Code, and formulate instructions that produce actionable and verifiable results.

By the end of the training, you will be able to choose a simple orchestration, define appropriate permissions, manage context, and implement controls to improve the reliability of your applications.

Guided workshops and original practice questions will help you analyze scenarios, compare proposed answers, and identify areas for review before taking the certification exam.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Identify the five domains of the exam syllabus and organize your exam preparation
- Build a simple agent-based loop with termination criteria and safeguards
- Define tools and integrate an external service with MCP
- Configure Claude Code for a controlled development workflow
- Design prompts and validate structured outputs
- Manage context, cache, and errors to ensure the reliability of a Claude application

Target Audience

- Software developer
- AI Engineer
- Junior Solutions Architect
- DevOps Engineer

Prerequisites

- Basic programming skills in Python or TypeScript
- Understanding of API interactions and HTTP and JSON formats
- Basic experience with the command line and version control using Git
- General understanding of language models and the ability to read technical documentation in English

Technical Prerequisites

- Computer with an x64 or ARM64 processor and 8 GB of RAM recommended for the workshops
- Ubuntu 22.04 or later, macOS 13 or later, or Windows 11 with WSL 2
- Environment including Python 3.11 or higher, Git, and Visual Studio Code
- Installation of Claude Code and the Claude Agent SDK in the versions validated for the session
- Stable internet connection supporting the services used, and an Anthropic Console account with an API key and sufficient credits for the workshops

Curriculum for our Claude Certified Architect Foundations (CCAR-F) training

[Day 1 - Morning]

Fundamentals of Agent-Based Architecture

- Overview of the Claude Certified Architect Foundations (CCAR-F) Certification Training: Five Domains and Weightings of the Framework
- Agent-based architecture and orchestration: choosing between a simple call, a predefined workflow, and an autonomous
- Messages API: messages, tool calls, results, and interpretation of stop_reason
- Agent Loop: Termination Criteria, Iteration Limits, and Introduction to the Claude Agent SDK

- Orchestration: task decomposition, coordinator, sub-agents, deterministic safeguards, and human validation
- Hands-on Workshop: Complete a guided request-processing agent, test its and justify its architecture based on a preparation scenario.

[Day 1 - Afternoon]

Tools, MCP, and Effective Instructions

- Tool design and MCP integration: tool responsibilities and selection criteria
- Tool Schemas: precise descriptions, required parameters, types, and validation with JSON Schema
- Results and Errors: Actionable Responses, Explicit Errors, and Distinguishing Between Technical Failures and business results
- Model Context Protocol: host, client, and server architecture; tool discovery; and connection to an external service
- Fundamentals of Prompting: Explicit Instructions, Data Separation, Examples, and protection against prompt injection
- Hands-on workshop: Set up a provided MCP server, connect a client, and test tool selection as well as the handling of a controlled error.

[Day 2 - Morning]

Claude Code configuration and workflows

- Claude Code configuration and workflows: getting started with the terminal and walking through a development task
- CLAUDE.md: persistent instructions, file scope, and project context organization
- Settings: user, project, and locale configuration; priority rules; and secret protection
- Permissions and hooks: minimal permissions, pre-execution checks, and post-modification verifications
- Reproducible Workflows: Scheduling, Skills, Testing, Change Reviews, and an Introduction to CI/CD integration
- Hands-on workshop: Set up Claude Code on a provided repository, add a validation hook, and make a change validated by tests.

[Day 2 - Afternoon]

Structured outputs, reliability, and final preparation

- Prompt engineering and structured outputs: success criteria, representative examples, and response evaluation
- JSON outputs: output schemas, strict tool calls, validation, and handling of rejections or Incomplete responses
- Context management and reliability: token budget, information selection, summarization, and resumption of long conversations

- Prompt caching: stable prefixes, cache points, and distinguishing between cache, memory, and context preservation
- Reliability and review methods: time limits, limited retries, traceability, human escalation, and analysis of distractors across the five domains
- Hands-on workshop: Enhancing the reliability of the “fil rouge” agent with structured output and context management, followed by solving an original mini-mock exam with a detailed answer key.

Target Companies

This training is intended for both individuals and companies—small or large—seeking to train their teams in new, advanced IT technology or to acquire specific professional knowledge or modern methods.

Placement at the Start of Training

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency level across various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth running of the training session.

Teaching Methods

Hands-On Training: 60% Practical, 40% Theoretical. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the instructor—supported by examples and reflection sessions—and group work.

Assessment

At the end of the session, a multiple-choice quiz is administered to verify that participants have successfully acquired the skills.

Certification

A certificate will be issued to each trainee who has completed the entire training program.