CompTIA AI Agent Essentials Training

Duration: **1 Day**

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Overview

CompTIA AI Agent Essentials Training is a practical course designed for non-technical and lightly technical professionals who want to understand, use, and manage AI agents confidently in workplace environments.

Through this training, participants will:

- Understand how **AI agents** differ from traditional chatbots and basic automation tools.
- Identify suitable **business use cases for AI agents** and turn everyday tasks into structured workflows.
- Explore how **context, instructions, tools, memory, and knowledge sources** influence agent behaviour.
- Learn to apply **guardrails, least-privilege principles, and human oversight** to support safe and reliable agent operation.
- Gain hands-on experience testing and evaluating agent performance through the**CompTIA Agent Simulator**.
- Validate their knowledge and practical skills through a**CompTIA CompCert assessment**.

CompTIA AI Agent Essentials is a **4–5-hour, hands-on training course** designed to help non-technical and lightly technical professionals develop confidence in working with AI agents.

The course introduces the key characteristics of **AI agents** and explains how they differ from traditional conversational chatbots and simple automation tools. Participants will learn to identify situations where an agent-based approach can deliver value and recognise when simpler AI tools or workflows may be more appropriate.

Throughout the programme, learners will explore how to transform real-world activities into **structured agent workflows**, manage **context, tools, memory, and knowledge**, and apply appropriate controls to support safe and dependable agent behaviour.

Through **scenario-based exercises** and practical activities using CompTIA's proprietary **Agent Simulator**, participants will develop experience in testing agent performance, monitoring behaviour, identifying potential issues, and recognising situations that require human intervention.

The training is accessible to participants without **programming skills or previous experience developing AI agents**.

At the end of the course, learners will have the opportunity to demonstrate their understanding through a **CompTIA CompCert assessment**.

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Prerequisites

No prior experience in AI agent development or coding is required to attend this course.

The programme is designed for **non-technical and lightly technical professionals** who want to understand and work with AI agents in organisational environments.

Who Should Attend

This course is suitable for professionals who need to **understand, assess, or use AI agents** as part of their work responsibilities.

It is particularly relevant to:

- **Product Professionals:** Individuals exploring how AI agents can support product-related activities and services.
- **Operations Professionals:** Those interested in applying agent-based workflows to everyday operational tasks.
- **Analytics Professionals:** Professionals seeking to understand how AI agents can assist with analysis and information-related activities.
- **IT-Adjacent Professionals:** Individuals working alongside technical teams who want to build foundational knowledge of AI agent technologies.
- **Non-Technical and Lightly Technical Professionals:** Learners interested in exploring practical AI agent applications within business environments.

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What You Will Learn

By the end of this course, participants will be able to:

- Explain what **AI agents** are and distinguish them from traditional chatbots and simple automation tools.
- Identify appropriate **AI agent use cases** and determine when simpler AI tools or workflows would be more suitable.
- Translate real-world business activities into **structured workflows** that AI agents can execute.
- Determine which tasks require **reasoning** and which are better handled through **deterministic logic**.
- Explain how **context, instructions, tools, APIs, and autonomy levels** influence agent behaviour.
- Evaluate the role of **short-term state, long-term memory, and knowledge sources** in agent workflows.
- Apply **guardrails, least-privilege principles, and human oversight** to support safe and reliable agent operation.
- Test **agent outputs**, compare results against expectations, and identify performance issues.
- Monitor agent behaviour, recognise **uncertainty and potential failures**, and communicate issues to human operators.
- Gain hands-on experience designing and testing simulated agents through the **CompTIA Agent Simulator**.
- Develop the knowledge and practical skills needed for the **CompTIA CompCert assessment**.

Outline

1. Understanding AI Agents and Use Cases

This module introduces the **fundamental characteristics of AI agents**, their differences from other AI tools, and their potential applications in organisational settings.

Key Topics:

- Defining **AI agents** and understanding their core characteristics
- Comparing AI agents with **traditional chatbots and simple automation tools**
- Identifying business scenarios suitable for AI agent use
- Recognising situations where simpler AI tools or workflows are more appropriate

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- Exploring how AI agents can support activities across **organisational environments**

2. Translating Work into Agent Workflows

Learn how to convert practical business tasks into **structured, manageable workflows** that AI agents can execute.

Key Topics:

- Breaking complex tasks into **smaller and manageable steps**
- Structuring workflows so that individual stages can be reviewed and verified
- Identifying when **agent reasoning** is required and when **deterministic logic** is more suitable
- Converting real-world work activities into **agent workflows**
- Evaluating how workflow structure can influence **agent performance**

3. Controlling Agent Behaviour and Actions

Explore how AI agents use **context, instructions, and tools** to complete tasks and how their actions can be managed effectively.

Key Topics:

- Understanding how **context and instructions** guide agent behaviour
- Exploring different levels of **agent autonomy**
- Examining how **APIs and external tools** extend agent capabilities
- Assessing the impact of tool access on agent behaviour and reliability
- Identifying appropriate **controls for agent actions**

4. Managing Agent Memory and Knowledge

Understand how AI agents use, retain, and retrieve information to support their tasks and workflows.

Key Topics:

- Exploring **knowledge, short-term state, and long-term memory**
- Understanding how agents store and retrieve information
- Determining which information should be **retained during a workflow**
- Identifying information that should be **discarded or not retained**
- Applying suitable approaches to **agent knowledge and memory management**

5. Designing Safe Agents with Human Oversight

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Learn how to implement **safety controls and human oversight mechanisms** that support responsible and reliable AI agent operation.

Key Topics:

- Applying **guardrails** to reduce inappropriate agent behaviour
- Restricting tool access through **least-privilege principles**
- Identifying workflow stages that require **human review or approval**
- Understanding how **human oversight** contributes to safe agent operation
- Aligning safety controls with the **risk level of agent workflows**

6. Testing, Evaluating, and Monitoring Agent Performance

Develop practical skills for assessing agent outputs, detecting issues, monitoring behaviour, and improving performance.

Key Topics:

- Evaluating **agent outputs** against expected results
- Diagnosing problems within agent workflows
- Monitoring agent behaviour and **performance indicators**
- Recognising uncertainty and potential failures
- Communicating agent limitations and failures to **human operators**
- Designing and testing simulated agents using CompTIA's proprietary **Agent Simulator**
- Improving agent workflows and performance through **personalised feedback**