Google Cloud

Develop Conversational Agents on Google Cloud

Conversational Agents, part of AI Applications, is an intelligent, conversational (GUI) interface. Conversational Agents uses an AI development system with access to SDKs and APIs in multiple languages. In this course, you will learn how to leverage Conversational Agents to design and build conversational agents on Google Cloud.

DURATION
Three days

LEVEL
Intermediate

FORMAT
Instructor led

What you'll learn

- Understand the different kinds of conversations available with an artificial intelligent (AI) agent.
- Design an AI agent for a deterministic intent-based domain.
- Understand how a user's request is translated into an action and response.
- Use webhooks to access data and products that are not part of the agent.
- Handle user errors and unexpected requests.
- Use the graphical user interface (GUI) to develop an agent.
- Gain a working knowledge of the testing tools available in the GUI.
- Integrate a chatbot into external user interfaces.
- Incorporate generative AI features into your agent.

Overview	15 modules · 7 labs
Who this course is for	Conversational designers, developers, and business analysts
Products	• Conversational Agents • Vertex AI Agents • Vertex AI
Prerequisites	Some familiarity with a graphical user interface for Conversational Agents will ease the learning process. Understanding JSON is helpful.

Module 01   Introduction to Conversational Agents

Topics	• Google's goals for virtual agents • Virtual agent product suites
Objectives	Describe the goals of virtual agent development and product suites.
Activities	Lab: Exploring the Conversational Agents User Interface

Module 02   Introduction to conversational design

Topics	• Convergent and divergent approaches • Conversation esign strategy
Objectives	Understand virtual agent design

Module 03   Steering bot design basics

Topics	• Use cases • Virtual agents • Start pages • Routes • Pages
Objectives	Design a basic steering bot using Conversational Agents

Module 04   **Implementing bot design**

Topics

- Use case review
- Agent architecture
- Creating the virtual agent
- Creating the route
- Testing the route

Objectives

- Create an agent, a route, intents, and pages.
- Implement routes without parameters.
- Use test agent for testing.

Activities

Lab: Conversational Agents: Bot Building Basics

Module 05   **Entities**

Topics

- Introduction to entities
- System entity types
- Custom entity types
- Managing entities in an agent

Objectives

- Access entity parameters.
- Create custom regular expression (RegEx) entities.
- Create custom list entities.
- Use current recommended practices for extending a system entity class.

Module 06   **Parameters**

Topics

- Introduction to parameters
- Parameters from intents
- Preset parameters
- Parameters from webhooks

Objectives

Manipulate parameters using various methods.

Activities

Lab: Conversational Agents: Parameter Manipulation

Module 07   **Event handlers**

Topics
- Definition of event handlers
- Page, flow event handler, and scope rules
- Form event handler and scope rules

Objectives   Understand event handlers and how they are used in Conversational Agents.

Module 08   **Versions and environments**

Topics
- Version management in Conversational Agents
- Environment management in Conversational Agents

Objectives
- Use version testing.
- Use environments for different audiences.

Activities   Lab: Conversational Agents: Managing Environments

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Module 09   **Testing**

Topics
- Validation
- Publication
- Simulation

Objectives
- Validate for static analysis.
- Publish to pretest user acceptance testing (UAT).
- Simulate for unit testing.

Activities   Lab: Debugging the Agent Using Test Agent

Module 10   **Fulfillment**

Topics
- Introduction to fulfillment
- Examples of static fulfillment

Objectives   Use text, conditional, and custom fulfillment.

Module 11   **Integrations**

Topics
- Google Messenger
- Conversational Phone Gateway

Objectives   Configure Google Messenger and Conversational Phone Gateway.

Module 12   **Webhooks**

Topics
- Why have a webhook?
- Types of webhooks
- Setting up a fulfillment webhook
- Modifications for a JSON response webhook

Objectives
- Recognize the different types of webhooks.
- Set up a webhook with fulfillment response.
- Set up a webhook JSON response.

Module 13   **Route groups**

Topics
- Introduction to route groups
- Managing a route group

Objectives
- Set up a flow route group.
- Set up a session route group.

Activities   Lab: Configuring a Route Group for Your Virtual Agent

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Module 14   **Design techniques**

Topics
- The concept of a flow
- Steering bot designs
- The concept of guardrails
- Design principle

Objectives
- Use flows to speed the development of an agent.
- Use guardrails to prevent problems in agent design.

Module 15   **Generators and generative fallback**

Topics
- Overview of generators
- Overview of generative fallback

Objectives   Use generators and generative fallback in virtual agents.

Activities   Lab: Conversational Agents with Generative Fallbacks