Agent Operations on Google Cloud

Cursusduur: 1 Dag **Cursuscode: GO5979** **Trainingsmethode: Virtual Learning**

Beschrijving:

In this course, you will use your knowledge of developing agents using the Agent Development Kit to operationalize agents using Agent Operations (AgentOps) on Google Cloud.

After reviewing the challenges of managing production agents and deployment targets, you will build CI/CD pipelines for agents and leverage a governed artifact management ecosystem. You will implement evaluation systems using the GenAI Evaluation Service and ADK and apply observability solutions for debugging with Cloud Logging and Cloud Trace. You will integrate security guardrails against agent-specific threats using Model Armor and Sensitive Data Protection. Finally, you will apply FinOps strategies to understand and manage agent costs.

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Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

Doelgroep:

Application Developers, DevOps Engineers, ML Engineers, Anyone deploying agentic applications on Google Cloud

Doelstelling:

- **After this course participants should be able to:**
- Navigate the challenges of managing production agents
- Define the core principles of AgentOps
- Architect agent operations on Google Cloud
- Leverage CI/CD tooling and patterns for agentic solutions on Google Cloud
- Select the deployment target for agents on Google Cloud
- Build a complete CI/CD pipeline for an agent
- Identify challenges addressed by observability
- Instrument an ADK agent with structured logs
- Enable OpenTelemetry tracing on Agent Engine and Cloud Run
- Leverage BigQuery and Looker Studio for visualization
- Perform validation on model responses
- Evaluate agent behavior, tool usage, and trajectory correctness
- Create and manage evalsets using ADK Web UI
- Evaluate evalsets with ADK UI, CLI, or code
- Use the Agent Platform Generative AI Evaluation Service
- Secure model inputs and outputs with Model Armor
- Protect sensitive data using Sensitive Data Protection with Model Armor
- Secure the connection between a user and an agent
- Identify the primary cost drivers of AI agents
- Reduce token and model costs
- Architect cost-efficient agent systems
- Implement a measurable AI FinOps loop on Google Cloud

Vereiste kennis en vaardigheden:

- Completion of "Deploy Multi-Agent Systems with Agent Development Kit and Agent Engine" or equivalent knowledge

Examens en certificering

None

- Python
- Prompt engineering
- Agent Development Kit

Vervolgcursussen:

None

Cursusinhoud:

01- Introduction to AgentOps on Google Cloud

- Challenges of managing production agents
- Core principles of AgentOps
- AgentOps on Google Cloud

02- CI/CD for Agent Deployments

- CI/CD review
- Agentic deployment targets
- CI/CD tooling and patterns on Google Cloud
- Cloud Build automation
- Activities for Module 2:
- Lab: CI/CD for Agents on Google Cloud
- Lab: CI/CD for Agents on Google Cloud

03- Observability for Debugging and Improvement

- Observability review
- Logging with agent callback logging
- Logging and tracing with OpenTelemetry
- Activities for Module 3:
- Lab: Instrument and Debug Agents with Cloud Logging, and Cloud Trace

04- Agent Evaluation and Quality Assurance

- Testing generative AI model responses
- Evaluating model responses

05- Security and Governance

- Model and context security
- Agent access

06- Applying FinOps to Agent Costs

- Primary cost drivers for AI Agents
- Cost-efficient agentic systems
- FinOps on Google Cloud

Extra informatie:

Official course book provided to participants

Nadere informatie:

Neem voor nadere informatie of boekingen contact op met onze Customer Service Desk 030 - 60 89 444

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