

Vertex AI and Generative AI Security

Cursusduur: 2 Dagen Cursuscode: GO8336

Beschrijving:

This course is designed to empower your organization to fully harness the transformative potential of Google's Vertex AI and generative AI (gen AI) technologies, with a strong emphasis on security.

Tailored for AI practitioners and security engineers, it provides targeted knowledge and hands-on skills to navigate and adopt AI safely and effectively. Participants will gain practical insights and develop a security-conscious approach, ensuring a secure and responsible integration of gen AI within their organization.

Products:

- Vertex AI
- Gemini
- Cloud IAM
- Cloud VPC
- Cloud KMS
- Cloud Operations
- Sensitive Data Protection

Updated August 2026

Doelgroep:

AI practitioners, security professionals, and cloud architects

Doelstelling:

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| <ul style="list-style-type: none">■ After this course participants should be able to:■ Review Google Cloud Security fundamentals.■ Establish a foundational understanding of Vertex AI.■ Enumerate the security concerns related to Vertex AI features and components.■ Control access with Identity Access Management.■ Simplify permission using organization hierarchies and policies.■ Use service accounts for least privileged access.■ Configure encryption at rest and in-transit.■ Encrypt data using customer-managed encryption keys.■ Protect sensitive data using the Data Loss Prevention service.■ Prevent exfiltration of data using VPC Service Controls.■ Architect systems with disaster recovery in mind. | <ul style="list-style-type: none">■ Deploy ML models using model endpoints.■ Secure model endpoints.■ Write to and analyze logs.■ Set up monitoring and alerting.■ Identify security risks specific to LLMs and gen AI applications.■ Understand methods for mitigating prompt hacking and injection attacks.■ Explore the fundamentals of securing generative AI models and applications.■ Introduce fundamentals of AI Safety.■ Implement best practices for testing model responses.■ Apply techniques for improving response security in gen AI applications.■ Understand RAG architecture and security implications.■ Implement best practices for grounding and securing data sources in RAG systems. |
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Vereiste kennis en vaardigheden:

- Fundamental knowledge of machine learning, in particular generative AI, and basic understanding of security on Google Cloud.

Examens en certificering

None

Vervolg cursussen:

None

Cursusinhoud:

Module 1: Introduction to Vertex AI Security Principles

- Google Cloud Security
- Vertex AI components
- Vertex AI Security concerns
- Lab: Vertex AI: Training and Serving a Custom Model

Module 2: Identity and Access Management (IAM) in Vertex AI

- Overview of IAM in Google Cloud
- Lab: Service Accounts and Roles: Fundamentals

Module 3: Data Security and Privacy

- Data encryption
- Protecting Sensitive Data
- VPC Service Controls
- Disaster recovery planning
- Lab: Getting Started with Cloud KMS
- Lab: Creating a De-identified Copy of Data in Cloud Storage

Module 4: Securing Vertex AI Endpoints and Model Deployment

- Network security
- Securing model endpoints
- Lab: Configuring Private Google Access and Cloud NAT

Module 5: Monitoring and Logging in Vertex AI

- Logging
- Monitoring

Module 6: Security Risks in Generative AI Applications

- Overview of gen AI security risks
- Overview of AI Safety
- Prompt security
- LLM safeguards
- Lab: Safeguarding with Vertex AI Gemini API
- Lab: Gen AI ; LLM Security for Developers

Module 7: Testing and Evaluating Generative AI Model Responses

- Testing generative AI model responses
- Evaluating model responses
- Fine-Tuning LLMs
- Lab: Measure Gen AI Performance with the Generative AI Evaluation Service
- Lab: Unit Testing Generative AI Applications

Module 8: Securing Retrieval-Augmented Generation (RAG) Systems

- Fundamentals of Retrieval-Augmented Generation
- Security in RAG systems
- Lab: Multimodal Retrieval Augmented Generation (RAG) Using the Vertex AI Gemini API
- Lab: Introduction to Function Calling with Gemini

Nadere informatie:

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

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