

Vertex AI Agent Builder overview

Vertex AI Agent Builder is a suite of products that help developers build, scale, and govern AI agents in production. Vertex AI Agent Builder provides a full-stack, secure foundation that supports the entire agent lifecycle:

- **Build:** Build agents using frameworks such as Agent Development Kit (ADK) or any other open-source framework of your choice.
 - **Agent Development Kit (ADK)** (<https://google.github.io/adk-docs/>) is an open-source framework that simplifies the process of building sophisticated multi-agent systems while maintaining precise control over agent behavior.
 - **Agent Garden** (Supported in [preview](https://cloud.google.com/products#product-launch-stages) (<https://cloud.google.com/products#product-launch-stages>)) is a library in the Google Cloud console where you can find and explore sample agents and tools that are designed to accelerate your development. In the Agent Garden, you can find the following:
 - **Agents:** These are prebuilt, end-to-end solutions for specific use cases. For example, you might find an agent designed for customer service, data analysis, or creative writing. These agents are ready to be used and can be customized to fit your needs. Only Google can publish agents to the Agent Garden. To use an agent from the garden, you can select it and deploy it to your project.
 - **Tools:** These are individual components that you can add to your own agents. Tools provide specific functionalities, like interacting with a database, calling an external API, or performing a search. You can browse the available tools in the Agent Garden and integrate them into your agents built with the Agent Development Kit (ADK). This lets you extend your agent's capabilities without having to build these functionalities from scratch.

Go to Agent Garden (<https://console.cloud.google.com/vertex-ai/agents/agent-garden>)

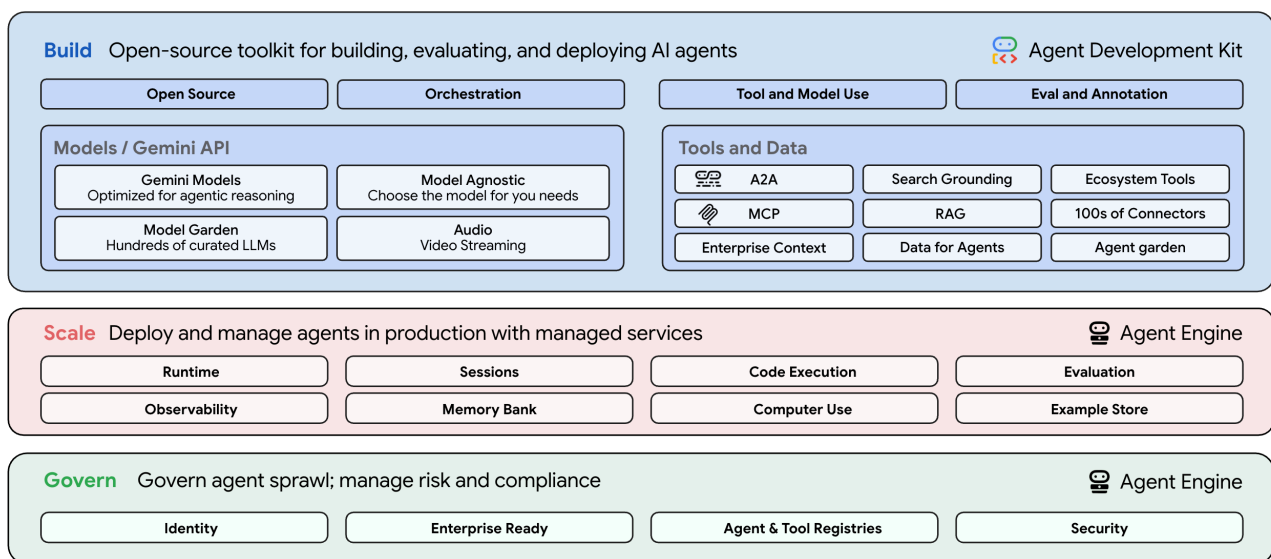
- **Agent Designer** ([Preview](https://cloud.google.com/products#product-launch-stages) (<https://cloud.google.com/products#product-launch-stages>)) is a low-code visual designer that lets you design and test your agent. Experiment with your agent in Agent Designer before transitioning development to code using [Agent Development Kit](/agent-builder/agent-development-kit/overview) (</agent-builder/agent-development-kit/overview>)

Go to Agent Designer (<https://console.cloud.google.com/vertex-ai/agents/agent-designer>)

- **Scale:** Scale your agents into production with built-in testing, release management, and reliability at a global and secure scale.
 - **Vertex AI Agent Engine** (/agent-builder/agent-engine/overview) is a set of services that enables developers to deploy, manage, and scale AI agents in production. Vertex AI Agent Engine offers services such as a fully-managed runtime, evaluation, Sessions, Memory Bank, and Code Execution. Understand agent behavior with [Google Cloud Trace](#) (/vertex-ai/generative-ai/docs/agent-engine/manage/tracing) (supporting [OpenTelemetry](#) (<https://opentelemetry.io/>)), [Cloud Monitoring](#) (/vertex-ai/generative-ai/docs/agent-engine/manage/monitoring), and [Cloud Logging](#) (/vertex-ai/generative-ai/docs/agent-engine/manage/logging).
 - **Agent Tools** are tools that you can equip your ADK agent to use, including:
 - [Built-in tools](#) (<https://google.github.io/adk-docs/tools/built-in-tools/>) such as [Grounding with Google Search](#) (/vertex-ai/generative-ai/docs/multimodal/ground-with-google-search), [Vertex AI Search](#) (/generative-ai-app-builder/docs/enterprise-search-introduction), and [Code Execution](#) (/vertex-ai/generative-ai/docs/multimodal/code-execution)
 - [RAG Engine](#) (/vertex-ai/generative-ai/docs/rag-quickstart#run-rag) for retrieval-augmented generation (RAG)
 - [Google Cloud tools](#) (<https://google.github.io/adk-docs/tools/google-cloud-tools/>) to connect to:
 - Your APIs managed in [Apigee API Hub](#) (/apigee/docs/apihub/what-is-api-hub)
 - 100+ enterprise applications through [Integration Connectors](#) (/integration-connectors/docs/all-integration-connectors)
 - Custom integrations with [Application Integration](#) (/application-integration/docs/overview)
 - [Model Context Protocol \(MCP\) tools](#) (<https://google.github.io/adk-docs/tools/mcp-tools/>)
 - [Ecosystem tools](#) (<https://google.github.io/adk-docs/tools/third-party-tools/>) such as LangChain tools, CrewAI tools, and [GenAI Toolbox for Databases](#) (<https://github.com/googleapis/genai-toolbox>)

- **Govern:** Monitor what your agents are doing with an audit trail for end-to-end observability.
 - **Detect threats with Security Command Center:** [Agent Engine Threat Detection](/security-command-center/docs/agent-engine-threat-detection-overview) (/security-command-center/docs/agent-engine-threat-detection-overview) (Preview) is a built-in service of Security Command Center that helps you detect and investigate potential attacks on agents that are deployed to Vertex AI Agent Engine Runtime.
 - **Agent identity** (/agent-builder/agent-engine/agent-identity) (Preview): Use [Identity Access Management \(IAM\)](/iam/docs/overview) (/iam/docs/overview) agent identity to provide security and access management features when using agents on Vertex AI Agent Engine Runtime.
 - **Tools in the Cloud API Registry** (/api-registry/docs/console) (Preview): Use Cloud API Registry in the Google Cloud console to view and manage the MCP servers and tools your agent has access to.

The following diagram shows the components of Vertex AI Agent Builder:



To learn more about AI agents in general, see the following:

- Blog post on [multi-agent systems with Vertex AI](https://cloud.google.com/blog/products/ai-machine-learning/build-and-manage-multi-system-agents-with-vertex-ai) (https://cloud.google.com/blog/products/ai-machine-learning/build-and-manage-multi-system-agents-with-vertex-ai)
- [What are AI Agents?](https://cloud.google.com/discover/what-are-ai-agents) (https://cloud.google.com/discover/what-are-ai-agents)
- [Vertex AI Agent Builder](https://cloud.google.com/products/agent-builder) (https://cloud.google.com/products/agent-builder)

Workflow for building and deploying agents

1. Discover agent samples and tools specific to your use cases in the [Agent Garden](https://console.cloud.google.com/vertex-ai/agents/agent-garden) (<https://console.cloud.google.com/vertex-ai/agents/agent-garden>).
2. Build and test your agent using the Agent Development Kit.
3. Deploy your agent to Vertex AI Agent Engine.

What's next

- [Agent Development Kit overview](/agent-builder/agent-development-kit/overview) (/agent-builder/agent-development-kit/overview)

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