Mastering Azure AI Studio:
A Guide To Understanding The Basics

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Agenda

- Introduction to Azure AI Studio
- How Azure AI Studio works?
- Core Components of Azure AI Studio
- Features of Azure AI Studio
- Use Cases
- Q & A

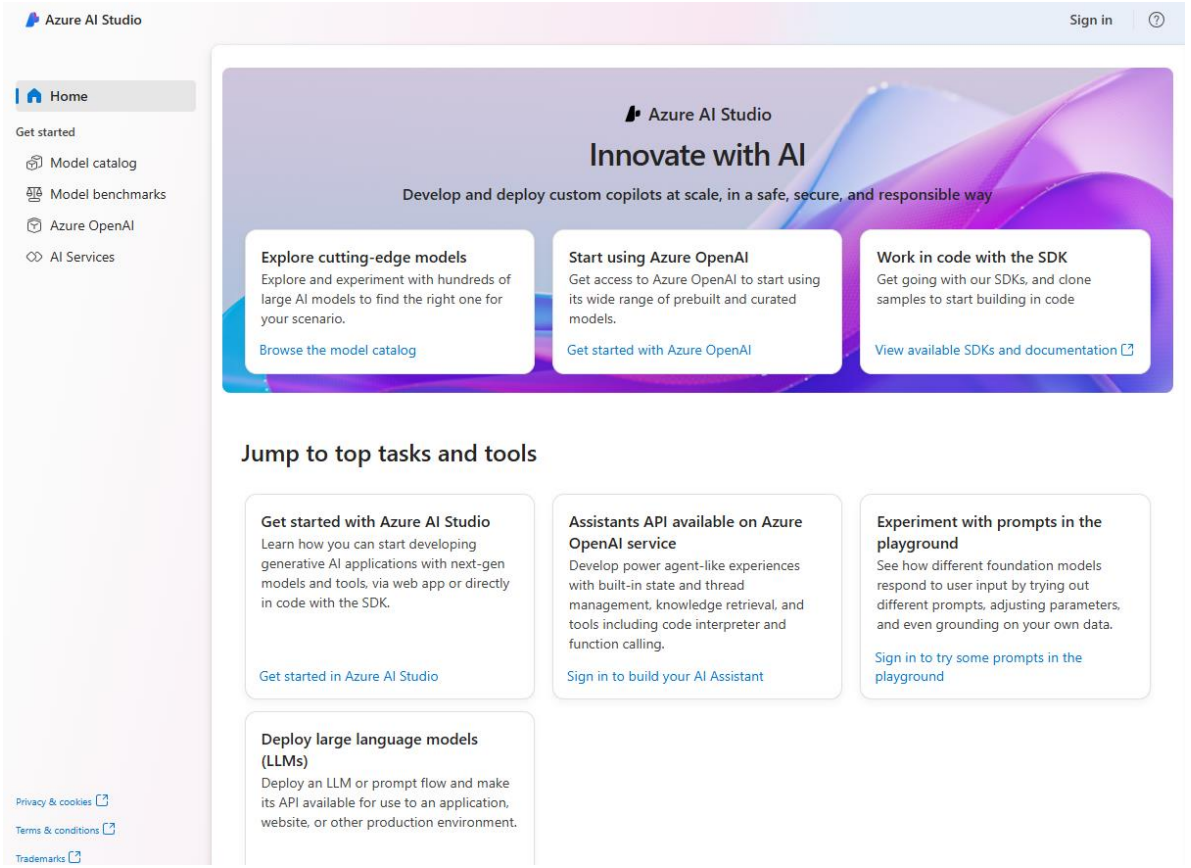
Introduction to Azure AI Studio

What is Azure AI Studio?

- Cloud bases platform – like IDE / web portal.
- Combines various Azure AI services into one unified development environment

Azure AI Studio combines

- Model catalog and prompt flow development from Azure Machine Learning service.
- Generative AI model deployment, testing, and custom data integration from Azure OpenAI service.
- Integration with Azure AI Services for speech, vision, language, document intelligence, and content safety.



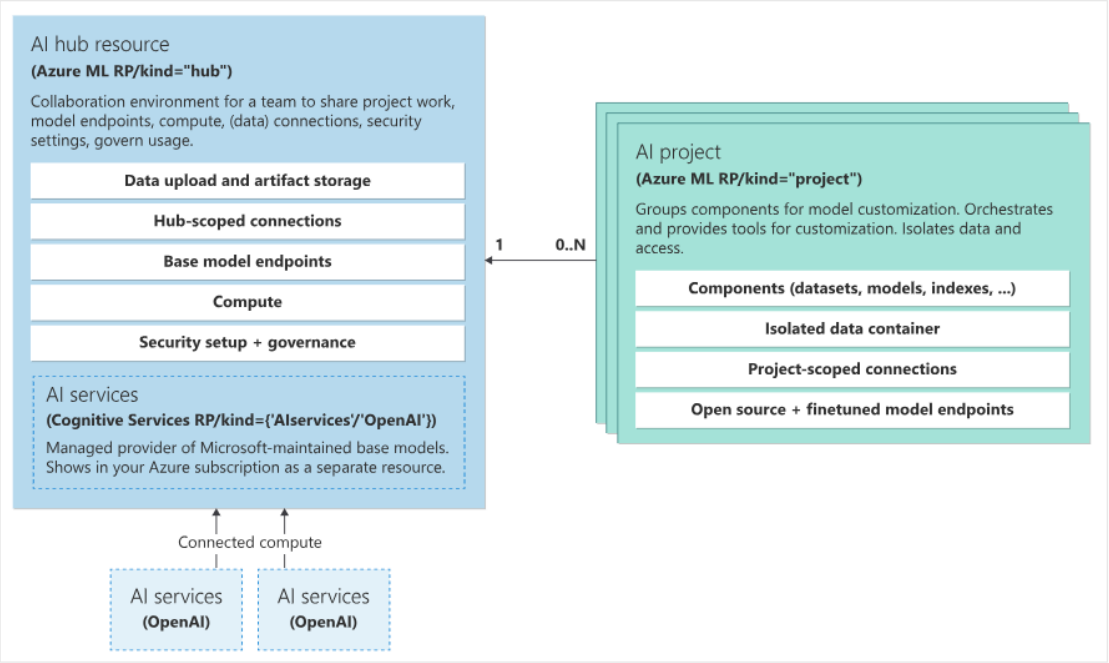
How Azure AI Studio works?

AI Studio Hub

- The hub is the top-level resource in Azure AI Studio.
- It provides the collaborative environment for a team to build and manage AI applications.

AI Studio Project

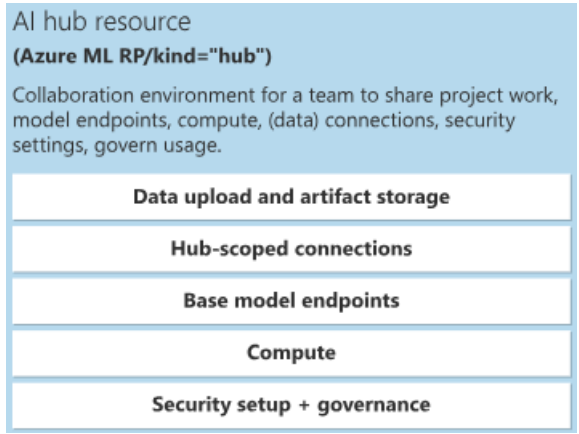
- A project is a child resource of the hub.
- It inherits the hub's connections, and compute resources.
- It serves as an organizational container with tools for AI customization and orchestration.



How Azure AI Studio works? Cont..

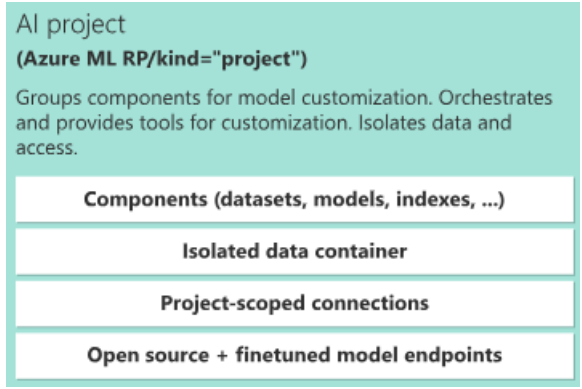
Features of AI Studio Hub

- Data upload and artifact storage.
- Hub-scoped connections to Azure services such as Azure OpenAI, Azure AI services, and Azure AI Search.
- Base model endpoints for Azure OpenAI, Speech, and Vision.
- Compute resources.
- Security and governance.



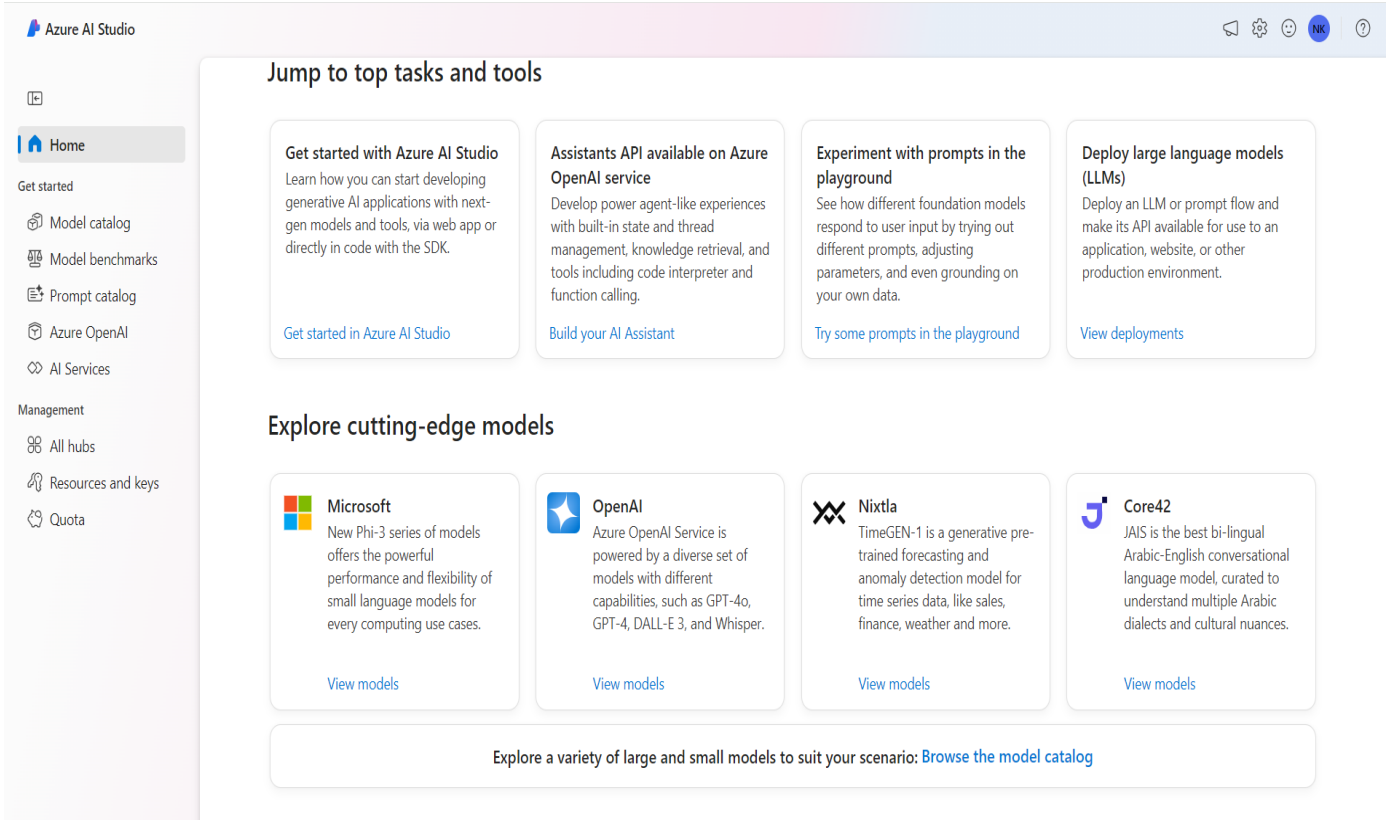
Features AI Studio Project

- Groups of components such as datasets, models, and indexes.
- An isolated data container (within the storage inherited from the hub).
- Project-scoped connections. For example, a project might need access to data stored in a separate Azure Storage account.
- Open source model deployments from catalog and fine-tuned model endpoints.
- A hub can have multiple child projects. Each project can have its own set of project-scoped connections.



Core Components of Azure AI Studio

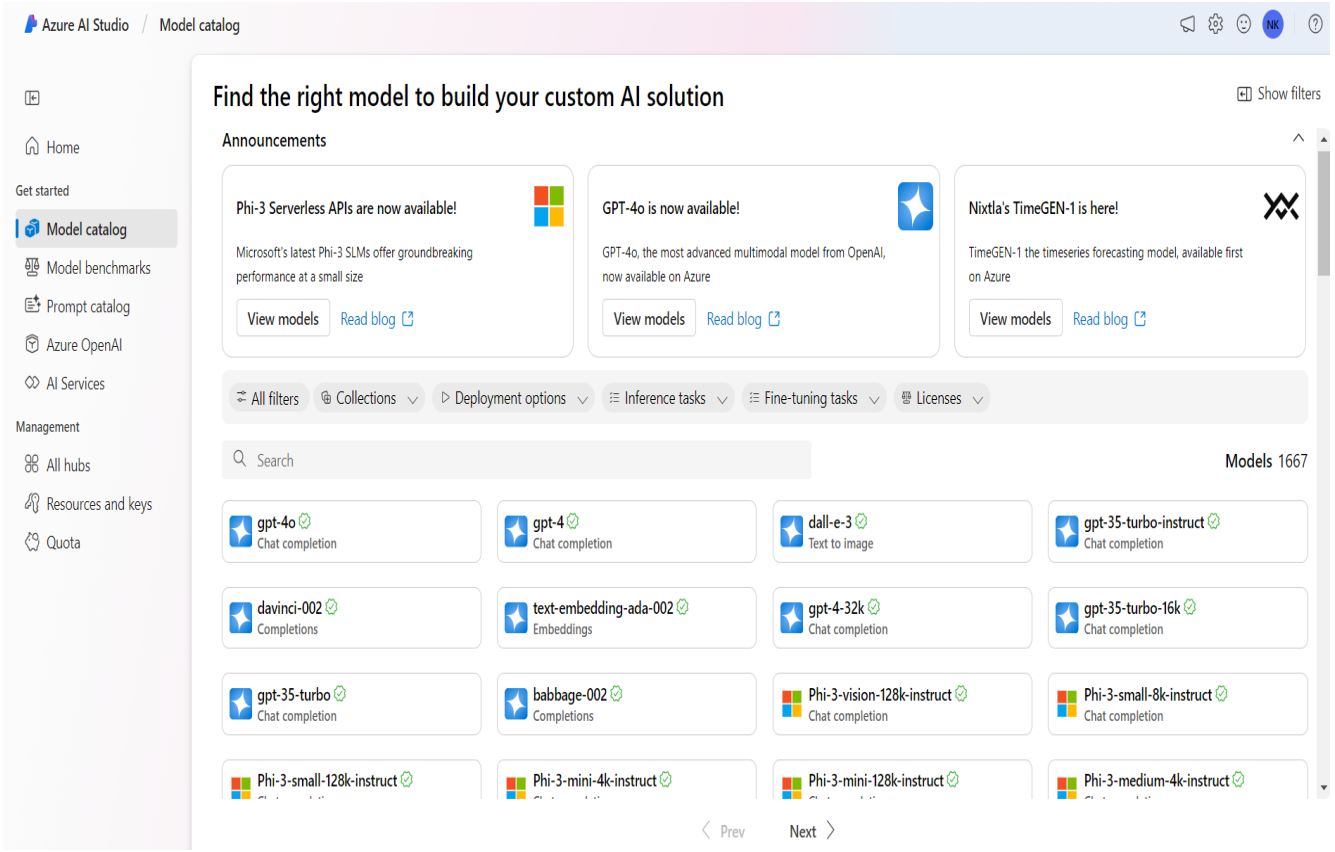
- Model Catalog
- Model Benchmarks
- Prompt Catalog
- Azure OpenAI
- AI Services



Core Components of Azure AI Studio Cont...

Model Catalog

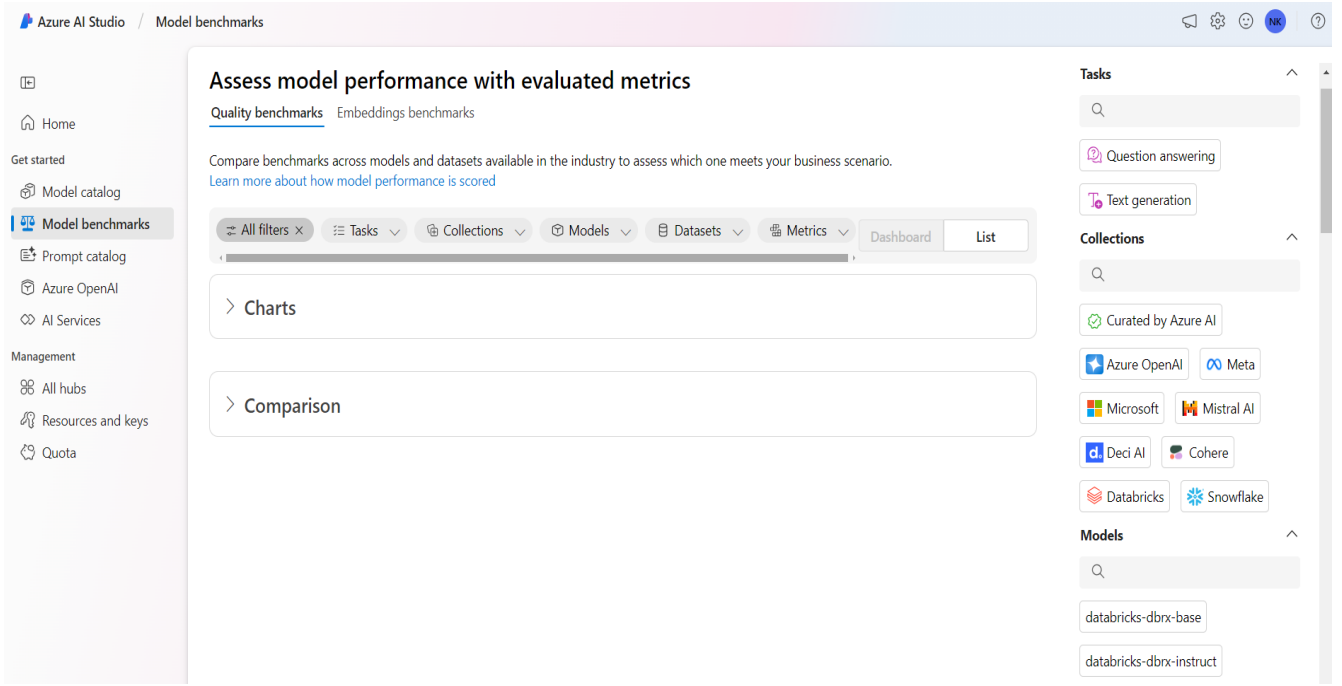
- Curated collection of pre-built machine learning models from Microsoft and other sources.
- Serves as a hub for discovering and utilizing a wide range of models.
- These models enable you to build generative AI applications.
- It features hundreds of models from various providers, including Azure OpenAI service, Mistral, Meta, Cohere, Nvidia, and Hugging Face.



Core Components of Azure AI Studio Cont...

Model Benchmarks

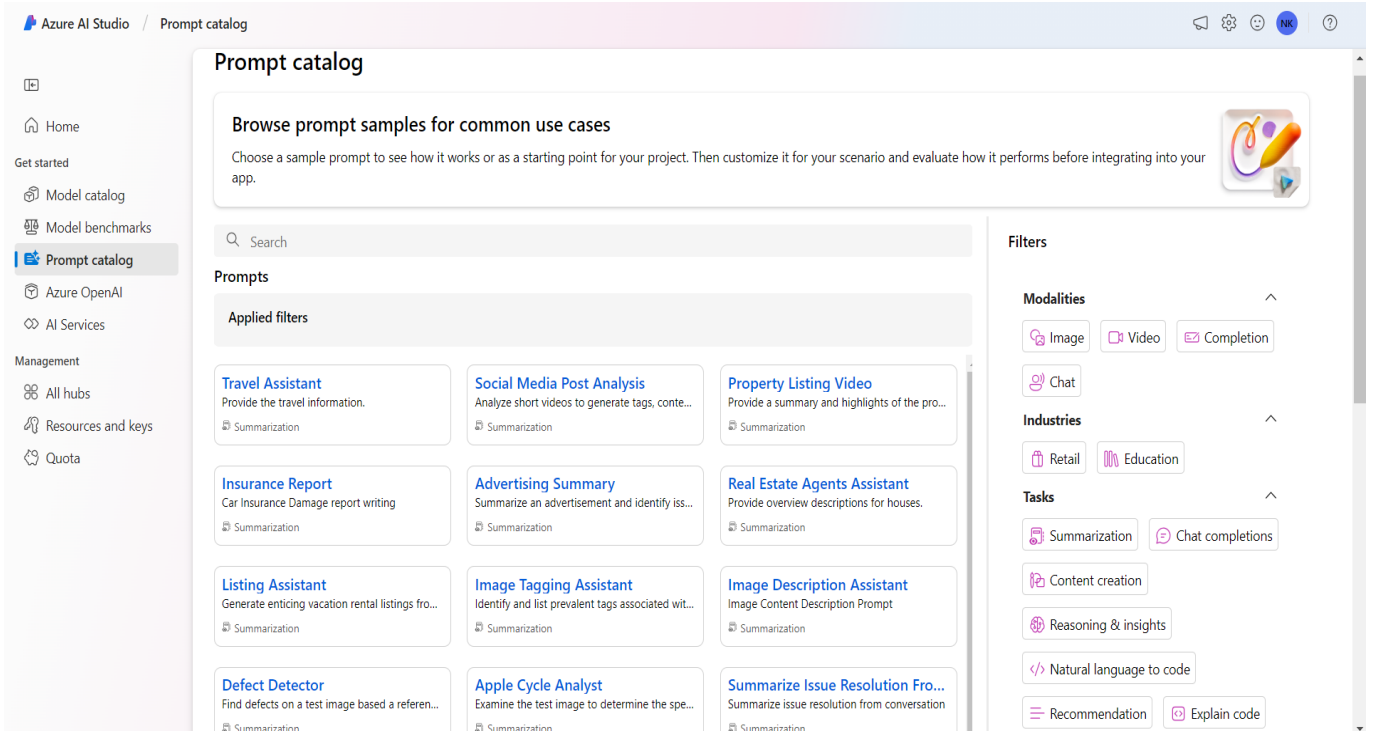
- Allow you to compare the performance of different models and datasets available in the industry.
- Helps in selecting the most suitable model for a particular task based on factors such as accuracy, speed, and resource consumption



Core Components of Azure AI Studio Cont...

Prompt Catalog

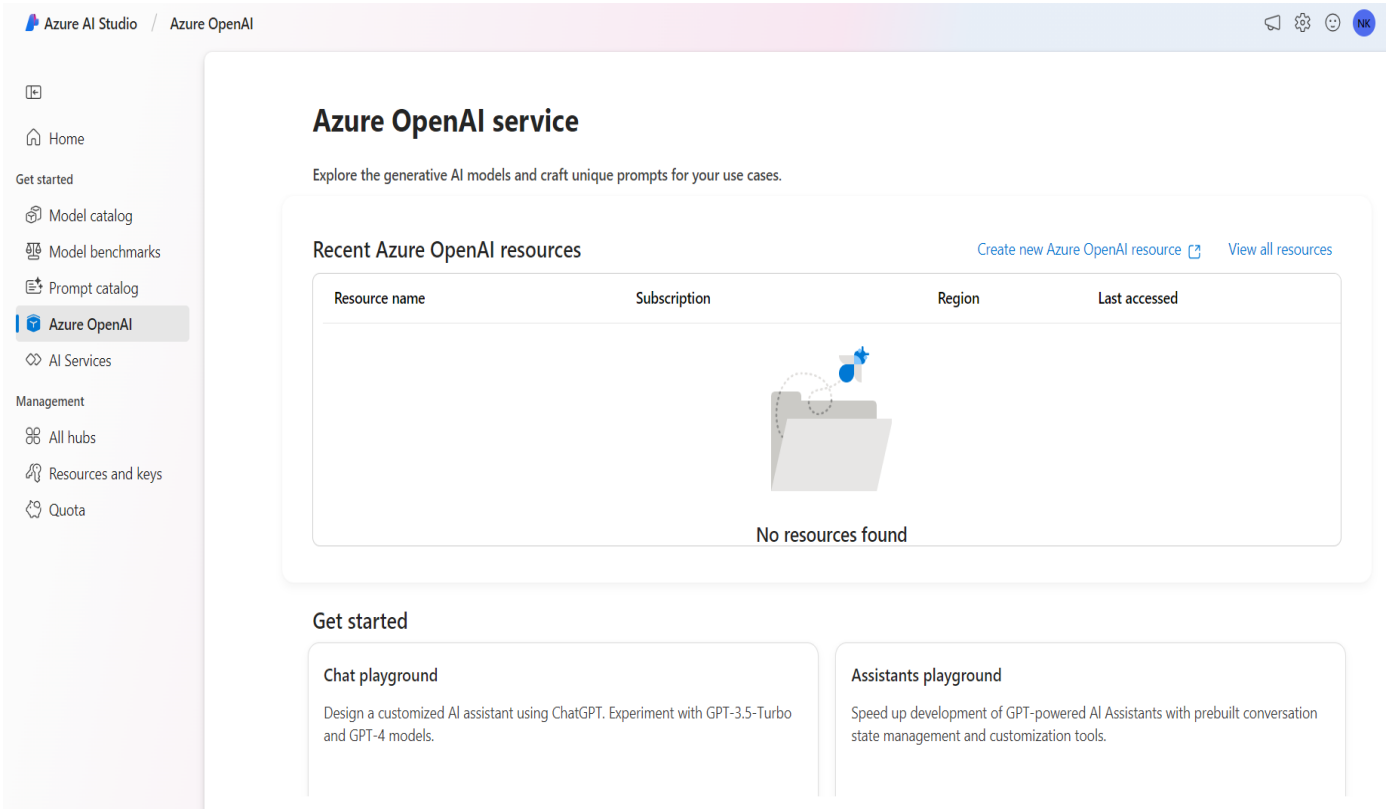
- Collection of predefined prompts for common use cases, such as generating text or images.
- Filter prompts by
  - Modality (e.g., chat, completions, image, video)
  - Industry (e.g., retail, education)
  - Task (e.g., summarization, chat completion).



Core Components of Azure AI Studio Cont...

Azure OpenAI

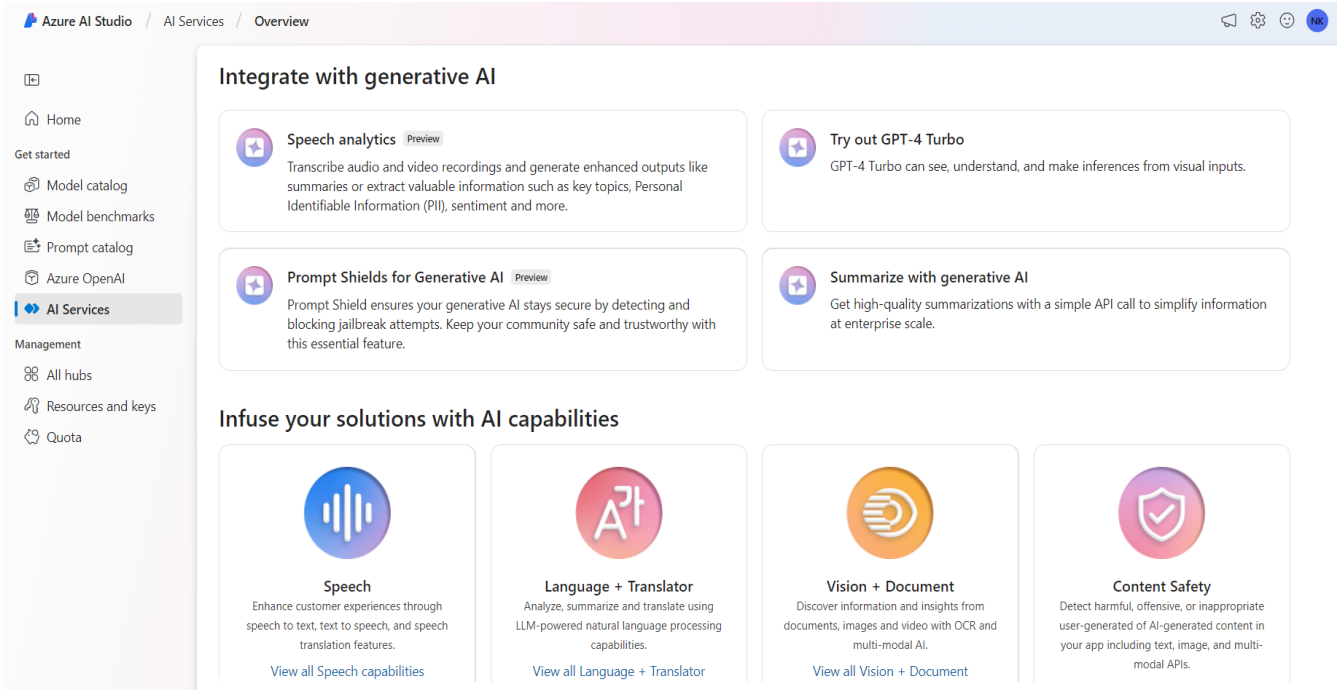
- Provides REST API access to powerful language models, including GPT-4, GPT-4 Turbo with Vision, GPT-3.5-Turbo, and Embedding's series.
- Can be adapted for various tasks, such as content generation, summarization, image understanding, semantic search, and natural language to code translation



Core Components of Azure AI Studio Cont...

AI Services

- Encompass a wide range of pre-built, customizable AI solutions.
- NLP, Computer Vision, Speech, Language, Document, Translator.
- Empower developers to create intelligent applications using out-of-the-box and customizable APIs and models.
- Developers can integrate these services via REST APIs or client library SDKs in popular programming languages.



Features of Azure AI Studio

- **Build your own copilot:** Allows users to interact with devices, chatbots and applications
- **Enable enterprise chat:** Build a chatbot that uses your own data to provide informed and custom responses to customer questions.
- **Incorporate multimodality:** Enhance apps with models that integrate various data types like text, images, video, and audio.
- **Analyze Speech:** Transform voice data into actionable insights using transcription, text-to-speech, and speaker recognition features.
- **Secure Data Handling:** Customize models using fine-tuning with your protected data. Contextually relevant retrieval augmented generation.
- **User-Friendly Interface:** Navigating intricate AI workflows is made easier with Azure AI Studio's intuitive interface.
- **Pre-Trained Models:** Get started quickly with pre-trained models for various AI tasks.
- **Scalability:** Azure AI Studio ensures scalability from proof of concept to production.
- **Continuous Monitoring and Governance:** Manage solutions with continuous monitoring and governance in production.

Use Cases

Improve customer experiences

Personalize content and reduce wait times by building apps with a natural language interface, grounded on your enterprise data.

Improve work quality

Create solutions that help teams connect and collaborate to improve operational efficiencies and close feedback loops faster.

Reduce organizational risk

Build apps that leverage advanced analytics and automation to proactively identify, assess, and mitigate operational risks.

Enhance productivity and efficiency

Use AI capabilities to optimize processes, automate tasks, and improve productivity so employees can focus on critical work.

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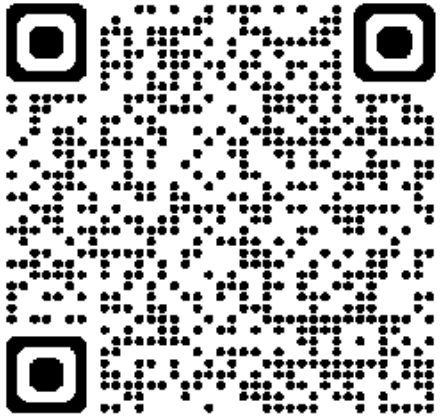
Introduction to Azure AI Studio



Satya Narayana Nadella

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you