

Figure 2-2. *Cloud storage products*

Big Data and Analytics

Google Cloud Platform offers a range of serverless big data and analytics solutions for data warehousing, stream, and batch analytics, cloud-managed Hadoop ecosystems, cloud-based messaging systems, and data exploration. These services provide multiple perspectives to mining/generating real-time intelligence from big data.

Examples of big data services shown in Figure 2-3 include Cloud BigQuery (serverless analytics/data warehousing platform), Cloud Dataproc (fully managed Hadoop/Apache Spark infrastructure), Cloud Dataflow (Batch/Stream data transformation/processing), Cloud Dataprep (serverless infrastructure for cleaning unstructured/structured data for analytics), Cloud Datastudio (data visualization/report dashboards), Cloud Datalab (managed Jupyter notebook for machine learning/data analytics), and Cloud Pub/Sub (serverless messaging infrastructure).



Figure 2-3. *Big data/analytics serverless platforms*

Cloud Artificial Intelligence (AI)

Google Cloud AI offers cloud services for businesses and individuals to leverage pre-trained models for custom artificial intelligence tasks through the use of REST APIs. It also exposes services for developing custom models for domain use cases such as AutoML Vision for image classification and object detection tasks and AutoML tables to deploy AI models on structured data.

Google Cloud AI services in Figure 2-4 include Cloud AutoML (train custom machine learning models leveraging transfer learning), Cloud Machine Learning Engine (for large-scale distributed training and deployment of machine learning models), Cloud TPU (to quickly train large-scale models), Video Intelligence (train custom video models), Cloud Natural Language API (extract/analyze text from documents), Cloud Speech API (transcribe audio to text), Cloud Vision API (classification/segmentation of images), Cloud Translate API (translate from one language to another), and Cloud Video Intelligence API (extract metadata from video files).

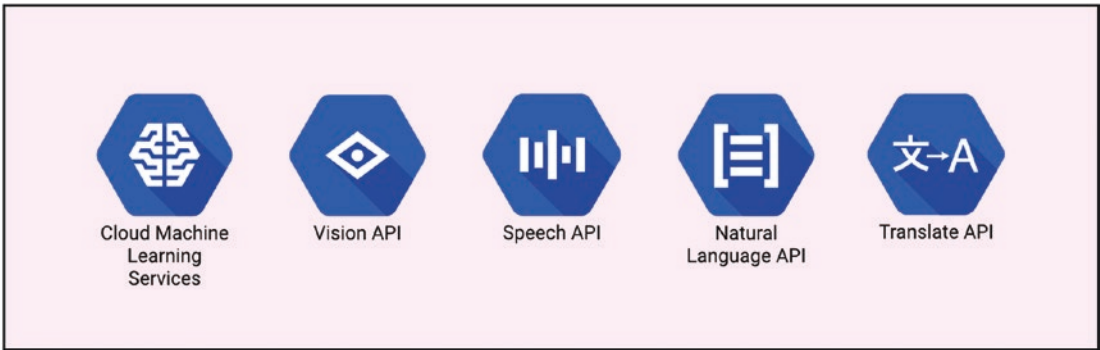


Figure 2-4. *Cloud AI services*

This chapter provides a high-level overview of the products and services offered on Google Cloud Platform.

The next chapter will introduce the Google Cloud software development kit (SDK) for interacting with cloud resources from the command line on the local machine and the cloud command-line interface (CLI) for doing the same via the cloud console interface on GCP.