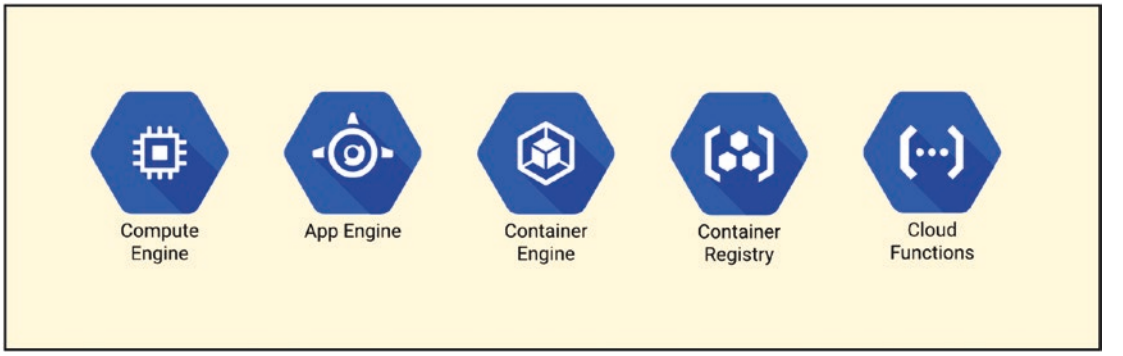

Figure 2-1. *Cloud compute services*

For our purposes of machine learning modeling, the cloud compute engine is what we will concentrate on. As later seen in Chapter 6, JupyterLab will provision a compute engine with all the relevant tools, packages, and frameworks for data analytics and modeling machine learning and deep learning solutions.

Cloud Storage

Google Cloud Storage options provide scalable and real-time storage access to live and archival data within the cloud perimeter. Cloud storage as an example is set up to cater for any conceivable storage demand. Data stored on cloud storage is available anytime and from any location around the world. What's more, this massive storage power comes at an almost negligible cost, taking into consideration the size and economic value of the stored data. Moreover, acknowledging the accessibility, security, and consistency provided by cloud storage, the cost is worth every penny.

The cloud storage products shown in Figure 2-2 include Cloud Storage (general-purpose storage platform), Cloud SQL (cloud-managed MySQL and PostgreSQL), Cloud Bigtable (NoSQL petabyte-sized storage), Cloud Spanner (scalable/high availability transactional storage), Cloud Datastore (transactional NoSQL database), and Persistent Disk (block storage for virtual machines).

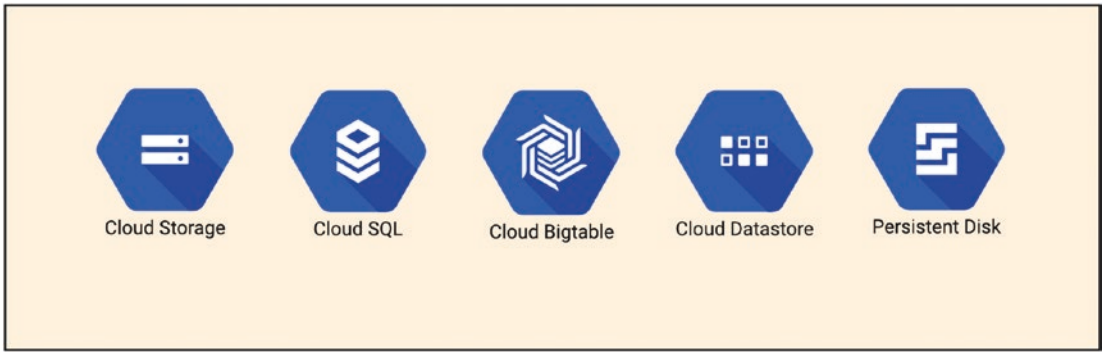

Figure 2-2. *Cloud storage products*

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).

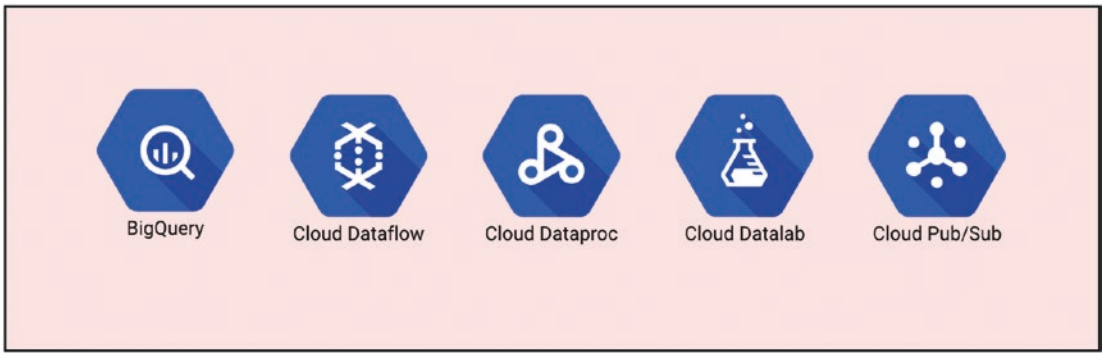

Figure 2-3. *Big data/analytics serverless platforms*