Persistent Disk

Reliable, high-performance block storage for virtual machine instances. Enterprise scale, limitless flexibility, and competitive price for performance.

New customers get $300 in free credits to spend on Persistent Disk.

- Get started today by [creating or attaching a disk](#)
- Understand how to [pick the best disk for your workload](#)
- A recent [study](#) shows our monthly machine costs are up to 80% less than other leading clouds
- See the latest [news, blogs, and articles](#) about Persistent Disk

BENEFITS

Block storage that is easy to deploy and scale

No volumes, no striping, no sizing—just disks. Stop the headache of dealing with partitioning, redundant disk arrays, or subvolume management. Scale up or down as needed, and only pay for what you use.

Industry-leading price and performance

HDD offers low-cost storage when bulk throughput is of primary importance. SSD offers consistently high performance for both random-access workloads and bulk throughput. Both types can be sized up to 64 TB.

Flexibility that comes with no downtime

Attach multiple persistent disks to Compute Engine or GKE instances simultaneously. Configure quick, automatic, incremental backups or resize storage on the fly without disrupting your application.

Key features

High-performance block storage for any workload

Persistent Disk performance scales with the size of the disk and with the number of vCPUs on your VM instance. Choose from the range of disk performance options that fit your business goals, and only pay for the storage you use.

Durability and availability that keep your business running

Persistent Disks are designed for durability. We automatically store your data redundantly to ensure the highest level of data integrity. Whether you're worried

about planned maintenance or unexpected failures, we ensure your data is available, and your business stays uninterrupted.

Automatic security and encryption

Automatically encrypt your data before it travels outside of your instance to Persistent Disk storage. Each Persistent Disk remains encrypted with system-defined keys or with customer-supplied keys. Google distributes Persistent Disk data across multiple physical disks, ensuring the ultimate level of security. When a disk is deleted, we discard the keys, rendering the data irretrievable.

All features

Find the right price and performance for your workload	Persistent Disks come in four types at different price points and performance profiles. We've designed these disk types based on years of working with customers to understand the range of uses of our Persistent Disks. Understand the price and performance of each disk type.
Scale anytime: resize your block storage while it's in use	Persistent Disk allows you to flexibly resize your block storage while it's in use by one or more virtual machines. Performance scales automatically with size, so you can resize your existing persistent disks or add more persistent disks to an instance to meet your performance and storage requirements—all with no application downtime.
Use disk clones to create new disks from a data source	Use Disk Clones to quickly bring up staging environments from production, create new disks for backup verification or data export jobs, and create disks in a different project.
Use Local SSD option for temporary storage	Local SSDs are physically attached to the server that hosts your VM instance. This tight coupling offers superior performance, very high input/output operations per second (IOPS), and very low latency compared to other block storage options. Local SSDs

	are often used for temporary storage such as caches or scratch processing space.
Automatic security and encryption	Automatically encrypt your data before it travels outside of your instance to Persistent Disk storage. Each Persistent Disk remains encrypted with system-defined keys or with customer-supplied keys. Google distributes Persistent Disk data across multiple physical disks, ensuring the ultimate level of security. When a disk is deleted, we discard the keys, rendering the data irretrievable.
Decoupled compute and storage	Your storage is located independently from your virtual machine instances, so you can detach or move your disks to keep your data even after you delete your instances.
Use snapshots to back up your data on a schedule	Create snapshots to periodically back up data from your zonal or regional Persistent Disks. To reduce the risk of unexpected data loss, consider the best practice of setting up a snapshot schedule to ensure your data is backed up on a regular schedule.
Use Machine Images to store your disk metadata and permissions	Use a Machine Images to store all the configuration, metadata, permissions, and data from one or more disks for a VM instance running on Compute Engine. The VM instance that you use to create a machine image is referred to as a source instance.