



① Standard PD disk (pd-standard)

- Backed by HDD (Harddisk drive)
- Best for sequential read/write operations (e.g logs, backups)
- Slower than SSD backed disk.

② Balanced PD ÷ SSD backed
 Good balance of performance & cost
 min → 10GB.

③ SSD persistent disk (pd-ssd)

- High IOPS and low latency
- Best for databases or apps with high performance needs.

④ ✓ Extreme PD (pd-extreme)

- Ultra high performance
- Designed for very high IOPS workloads

	Standard	Balanced	SSD
Optimised for	Cost-sensitive, throughput optimised non-boot data drives	General purpose enterprise applications. Best price per GB	Performance sensitive, business critical applications. Best price per IOPS.
Read IOPS per instance	375	3,000	15,000
Write IOPS per instance	750	3,000	9,000
Read throughput per instance	60	140	240
Write throughput per instance	60	140	204

② local SSD → Physically attached to the host machine

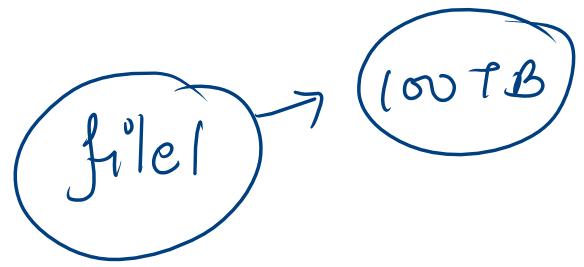
- Non persistent (deleted as soon as your machine stops or restarts)
- very high speed and low latency
- Data is lost if VM stops, restarts or crashes
- Best for temporary data & caching.
- min size: 375 GB.

case study → Using it as a temporary cache for apps, data pipelines or webservice.

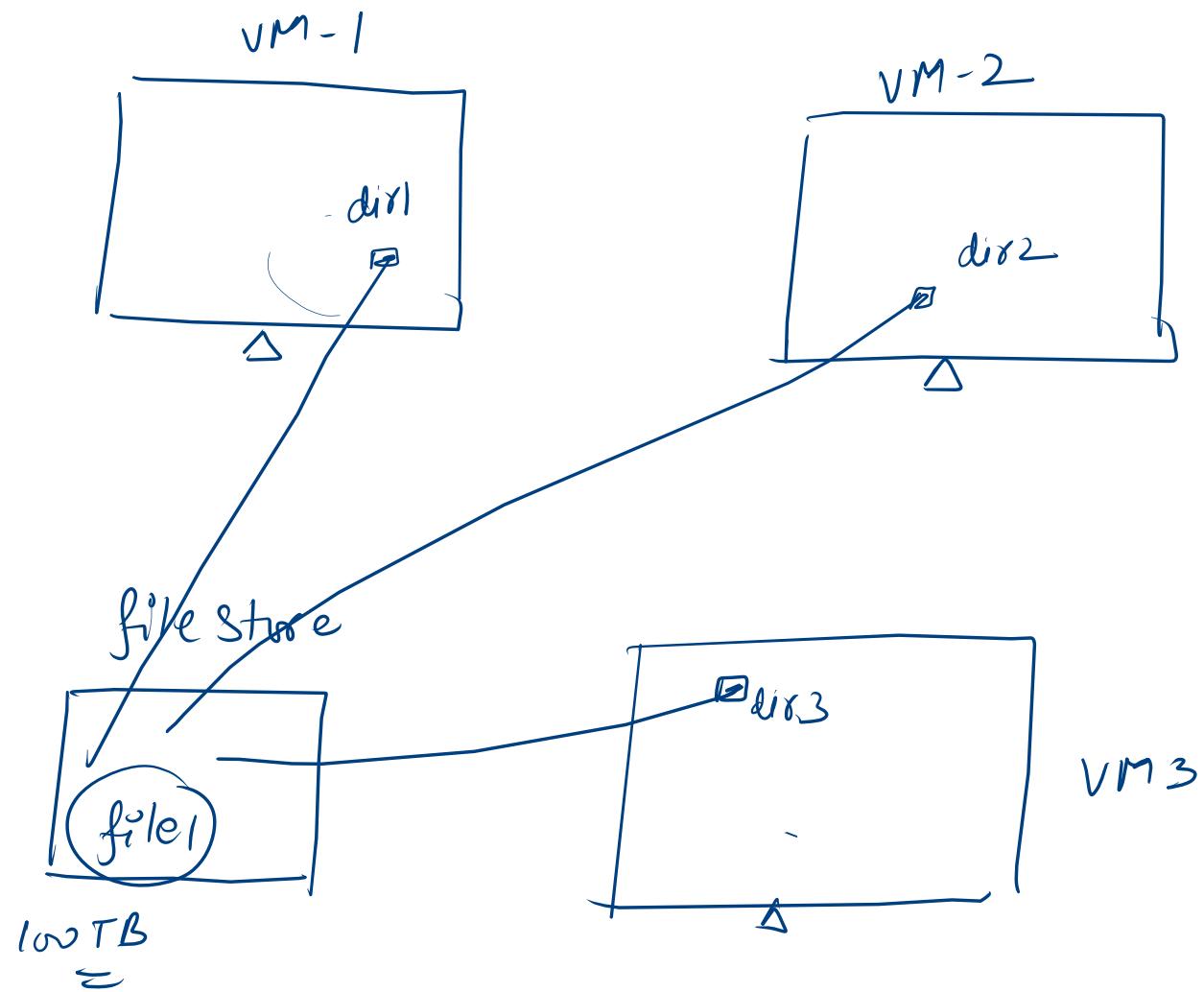
Why local SSD :-

- Superfast read/write
- you dont need the data after process end.

③ file store (Managed NFS)

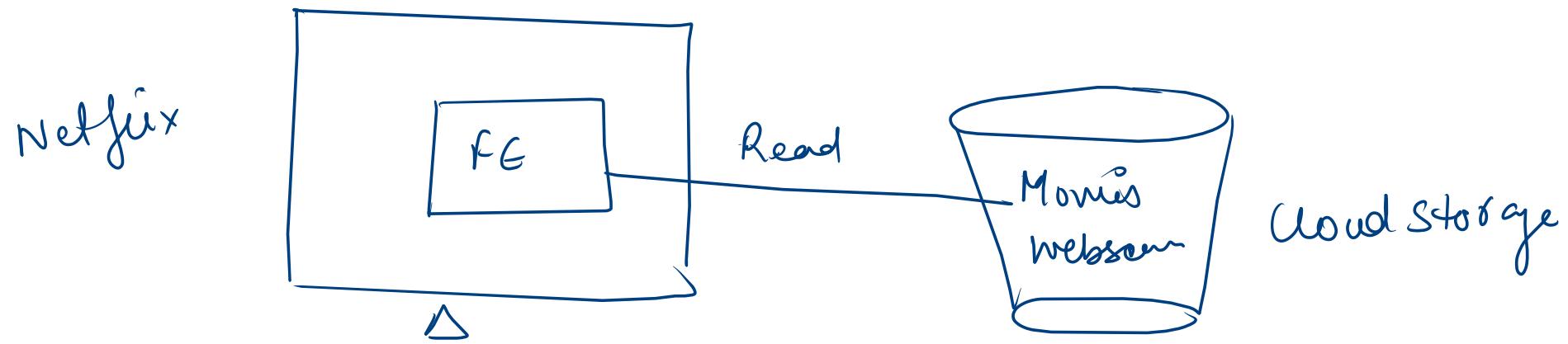


- Useful when multiple VM need shared access to the same files.
- Good for content management systems, shared disks etc - -



④ Cloud storage (buckets)

- Non Root Storage (you cannot install O.S. in cloud storage)
- Ideal for storing Images, backups, logs, videos etc.



- cheaper & highly durable.

Lab
① Create a new Instance
Select machine type: N1

Create an instance

Operating system and storage

- Machine configuration: n1-standard-1, us-central1
- OS and storage: Ubuntu 20.04 LTS (highlighted)
- Data protection: Snapshot schedules
- Networking: 1 network interface
- Observability

Name: instance-20250406-040736
Type: New standard persistent disk
Size: 10 GB
Snapshot schedule: default-schedule-1
Licence type: Free
Image: Ubuntu 20.04 LTS
[Change](#)

Additional disks

Create machine

Public images

Operating system: Ubuntu

Version *: Ubuntu 20.04 LTS

x86_64, amd64 focal image built on 2025-03-13

Boot disk type *: Standard persistent disk (highlighted)

Balanced persistent disk
Extreme persistent disk
SSD persistent disk

Provision between 10 and 65536 GB

Show advanced configuration

Resize the PD

Compute Engine

Virtual machines

- VM instances
- Instance templates
- Sole-tenant nodes
- Machine images
- TPUs
- Committed-use discounts
- Reservations
- Migrate to Virtual Machines

Storage

Disks

Zone	Recommendations	In use by	Internal IP
us-central1-c		10.128.0.3 (nic0)	

and DR **New** set up disaster

Create instance Import VM Refresh

View billing report View and manage your Compute Engine billing

Monitor VMs View outlier VMs across m CPU and network

Disks Create disk Refresh Delete

Filter Enter property name or value

Status	Name ↑	Type	Size	Architecture	Zone(s)	In use by	Snapshot schedule	Action
✓	instance-20250406-040736	Standard persistent disk	10 GB	x86/64	us-central1-c	instance-20250406-040736	default-schedule-1	⋮

instance-20250406-040736

properties

Size * 15 GB

Provision between 10 and 65,536 GB

Architecture x86/64

No boot disk selected

click

edit

change size to 15GB

go to VM Details page & it show 15GB now

