# Azure Virtual Machines Cheat Sheet

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## Operating Systems

Marketplace contains supported images. You can create custom images for other options.

### Windows :

5 years of mainstream support + 5 years of extended support (10 years total)

- Server 2008 R2 SP1
- 2012 Datacenter
- 2012 Datacenter R2
- 2016 Datacenter
- 2019 Datacenter,
- 2012 Datacenter Server Core (no UI)
- 2012 Datacenter with Containers (pre-installed support for containers)

### Linux:

Linux is not always free, depending on the distribution you choose.

- CentOS
- Ubuntu
- Red Hat Enterprise Linux (RHEL)
- Ubuntu Advantage
- SUSE Linux

## Sizes

### Instance Family:

- General Purpose - balanced VM
- Compute Optimized - double the CPU cores
- Memory Optimized - double the memory
- Storage Optimized - double the local storage
- GPU - access to a graphics processing unit
- High-Performance Compute - fastest everything

# General Purpose - balanced VM

"Balanced CPU-to-memory ratio. Ideal for testing and development, small to medium databases, and low to medium traffic web servers."
- D Series
- A Series (non-critical)
- B Series (economical)
- DC Series (preview, confidential computing)

# Compute Optimized - double the CPU cores

"High CPU-to-memory ratio. Good for medium traffic web servers, network appliances, batch processes, and application servers."
- F Series

# Memory Optimized - double the memory

"High memory-to-core ratio. Great for relational database servers, medium to large caches, and in-memory analytics."
- E Series
- D11-15
- G Series (includes powerful CPU for database workloads)
- M Series (certified for SAP HANA, up to 416 cores + 12 TB memory)

# Storage Optimized - double the local storage

"High disk throughput and IO. Ideal for Big Data, SQL, and NoSQL databases."
- L Series

# GPU - access to a graphics processing unit

"Specialized virtual machines targeted for heavy graphic rendering and video editing available with single or multiple GPUs."
- N Series (incl NC, NV, ND)

# High-Performance Compute - fastest everything

"Our fastest and most powerful CPU virtual machines with optional high-throughput network interfaces (RDMA)."

- H Series (incl HB and HC)

# Payment Options

- Pay As You Go (PAYG) - charged by the minute
- Reserved VMs - a committment; pay for 1 or 3 years in advance, or paid monthly
- Spot Pricing - like an auction; bid on compute time only while available
- Hybrid Benefit - pay for Windows & SQL Server licenses through Enterprise Agreement, likely cheaper

# Notes

- Permanent Storage charged separately
- Public IP addresses have a cost
- Bandwidth into Azure (egress) has a cost
- Region chosen affects pricing
- Can get Windows VM images with SQL Server, Biztalk, Sharepoint or Machine Learning Server preinstalled, for additional licensing cost
- Can get Linux VM images with SQL Server and Machine Learning Server preinstalled, for additional licensing cost