**Azure Overview**

**General information:**

Instance family types on Azure:

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| **Instance Family** | **Description** |
| A-Series | Entry level VMs for dev/test |
| B-Series | Economical burstable VMs |
| **D-Series** | **General purpose compute** |
| E-Series | Optimized for in-memory applications |
| **F-Series** | **Compute optimized virtual machines** |
| G-Series | Memory and storage optimized virtual machines |
| H-Series | High Performance Computing virtual machines |
| L-Series | Storage optimized virtual machines |
| M-Series | Memory optimized virtual machines |
| Mv2-Series | Largest memory optimized virtual machines |
| N-Series | GPU enabled virtual machines |

Detailed overview instance families: <https://azure.microsoft.com/en-us/pricing/details/virtual-machines/series/#pricing>

**Price Models:**

* **Pay-as-you-go**
  + Pay only for what you use
* **Spot VMs**
  + Up to 90% discount compared to pay-as-you-go prices
  + Pay only the maximum price you set in advance
  + Workloads will be evicted (within 30-seconds notice to finish running jobs or perform shutdown tasks) when:
    - The price is higher than the maximum price that you agreed to pay.
    - Azure no longer has available compute capacity and needs to reallocate its resources.
  + Eviction Policy is either deallocate (default) or delete
    - With deallocate charged for storage costs on the disks (no guarantee) -> can redeploy later, if there is now an instance available (not automatically)
    - Delete will delete all so no additional costs
  + Limitations:
    - Not supported for VM: B-series and Promo versions of any size (like Dv2, NV, NC, H promo sizes)
  + The following [offer types](https://azure.microsoft.com/support/legal/offer-details/) are currently supported:
    - Enterprise Agreement
    - Pay-as-you-go offer code (003P)
    - Sponsored (0036P and 0136P)
    - For Cloud Service Provider (CSP), see the [Partner Center](https://learn.microsoft.com/en-us/partner-center/azure-plan-get-started) or contact your partner directly.
* **Savings Plans**
  + Azure savings plan for compute is a flexible pricing model that provides savings up to 65 percent off pay-as-you-go pricing when you commit to spend a fixed hourly amount on compute services for one or three years.
  + Up-front payment or monthly
  + If your usage is less than or equal to your hourly amount:
    - Get lower, savings plan prices.
    - Pay the full hourly amount, even if usage is less.
    - Incur no additional costs—usage is covered by the plan.
  + If your usage is greater than your hourly amount:
    - Usage up to your hourly amount is billed at lower prices and included in the cost of your plan.
    - Additional usage is billed at pay-as-you-go prices and invoiced separately.
* **Reserved Instances** -> no official marketplace
  + Significantly reduce costs—up to 72 percent compared to pay-as-you-go pricing—with one-year or three-year terms for Windows and Linux virtual machines (VMs)
    - higher discount than savings plans, but lower flexibility
    - Can cancel a reservation for a termination fee
* Further price savings:
  + **Azure Hybird Benefit:** Is a cost-savings and migration benefit. Apply your existing Windows Server and SQL Server licenses with active Software Assurance or subscriptions to Azure Hybrid Benefit to achieve cost savings. Azure Hybrid Benefit allows users with existing on-premises licenses to apply them towards Azure services, resulting in significant cost savings.
  + **Azure Dev/Test pricing:** Azure offers discounted pricing for users who want to use Azure for development and testing purposes.
  + **Azure Free Account:** Azure offers a free account that provides limited access to Azure services for a limited time. This is an excellent option for users who want to try out Azure before committing to a paid plan.

**Links:**

Prices for single VMs:

* Linux VM: <https://azure.microsoft.com/de-de/pricing/details/virtual-machines/linux/>
* Windows VM: <https://azure.microsoft.com/de-de/pricing/details/virtual-machines/windows/>

Prices for VM scale sets:

* Linux: <https://azure.microsoft.com/en-us/pricing/details/virtual-machine-scale-sets/linux/>
* Windows: <https://azure.microsoft.com/en-us/pricing/details/virtual-machine-scale-sets/windows/>

Prices for Spot VMs:

* <https://azure.microsoft.com/en-us/pricing/spot-advisor/>