Cloud in Azure

Understanding Public, Private, and Hybrid Clouds
Introduction to Azure

Azure is Microsoft's cloud computing platform, providing a variety of cloud services including analytics, storage, and networking.
1. Public Cloud

It refers to the standard cloud computing model where resources are hosted off-site and accessible over the internet. Azure's public cloud offers scalability, pay-as-you-go model, and vast global infrastructure.

Key Characteristics:

- Everything runs on cloud provider hardware.
- No local hardware.
- Some services share hardware with other services.
Advantages:

• Cost-Efficient
• Scalable and Elastic
• No Maintenance
• No deep technical skills required

Disadvantages:

• Security & Compliance
• Ownership
• Specific scenarios with unique business requirement
2. Private Cloud

It refers to cloud resources used exclusively by a single business. Azure Stack is an example that allows organizations to run Azure in their own datacenters.

Key Characteristics:

• Everything runs on your own datacenter
• Self-service should be provided
**Advantages:**

- Enhanced Security
- Customization
- Compliance and Regulatory Control
- Predictable Performance

**Disadvantages:**

- Initial CapEx
- Limited agility
- IT skills & expertise are mandatory
3. Hybrid Cloud

This combines both public and private clouds. It allows data and applications to be shared between them, offering greater flexibility and optimization of existing infrastructure.

Key Characteristics:

• Combine public & private clouds
• Great flexibility
Advantages:
• Flexibility
• Utilize existing infrastructure
• Security Compliance

Disadvantages:
• Can be more expensive
• Complicated to manage
• IT skills & expertise are mandatory
Azure's Hybrid Capabilities

Azure offers a variety of services and tools tailored for hybrid environments. From consistent cloud-native applications to seamless integration between on-premises datacenters and the Azure cloud.

Azure’s Hybrid Cloud Solution:

- Azure Arc
- Azure Stack
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Public</th>
<th>Private</th>
<th>Hybrid</th>
</tr>
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<tbody>
<tr>
<td><strong>Ownership</strong></td>
<td>Shared</td>
<td>Dedicated</td>
<td>Shared and dedicated</td>
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<tr>
<td><strong>Access</strong></td>
<td>Over the internet</td>
<td>On-premises or through a private network</td>
<td>Both over the internet and on-premises</td>
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<tr>
<td><strong>Deployment</strong></td>
<td>Fast and easy</td>
<td>More complex and time-consuming</td>
<td>Most complex, but also most flexible</td>
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<td><strong>Scalability</strong></td>
<td>Highly scalable</td>
<td>Less scalable</td>
<td>Highly scalable, but requires careful planning and management</td>
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<td><strong>Cost</strong></td>
<td>Pay-as-you-go</td>
<td>Higher upfront costs, but lower long-term costs</td>
<td>Can be more cost-effective than public cloud for certain workloads</td>
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<tr>
<td><strong>Security</strong></td>
<td>Shared security model</td>
<td>Dedicated security model</td>
<td>Hybrid security model</td>
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<tr>
<td><strong>Compliance</strong></td>
<td>Must meet Azure's compliance standards</td>
<td>Must meet your organization's compliance requirements</td>
<td>Must meet both Azure's and your organization's compliance requirements</td>
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Thank You !!