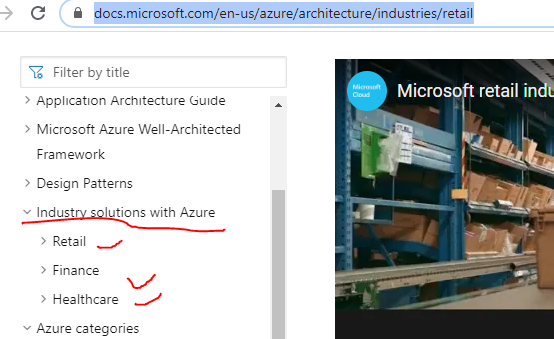
**Azure Administrator- Azure Architect -Daily Work Companion;**

**Things I do to monitor and my make my Azure environment, deployments efficient and secure.**

**The list provided, outlines the questions I may ask while designing a solution or while administering an azure environment. This is not the most extensive list. However, it acts as a basic guide. Each environment and solution deployment requires different thought process and services or tools.**

**The pros and cons, best practices and deployment instructions for different scenarios can be found on Microsoft’s well-documented website.**

1. How can I get a “single pane of glass”, view and management of servers running both in cloud and on premise? Deploy and use ***Windows admin Center***.
2. How can I have a comprehensive security management of both my on premise and Azure resources? Deploy ***Azure Security Center***.
3. Is Data on my storage (server hard disk) secure? ***Apply drive encryption***.
4. I need added security and insights into my network. Deploy *Azure Advanced Threat Protection* (**ATP**).
5. Deploy Role Based Access Control (**RBAC)** - to manage access to subscription resources.
6. Manage Governance via Azure Policy (Policies- set the rules that you want to happen and what you want to prevent from happening in azure – For example, enforcing tagging of Resources {for Billing & tracking purposes}.
7. Properly organize resources into resource group then apply **resource locks-** toprevent the accidental deletion or removal of resources.
8. Create own V-nets instead of using default. Which are then broken down into subnets for increased security and traffic management.
9. Plan and deploy membership types (Assigned, Dynamic user, Dynamic Device & group (Security or Microsoft 365 groups) types carefully.
10. How can I control policy and governance within my Azure environment? Deploy ***Management Group***.
11. How can I monitor what is happening among the resources in my Azure Network? Deploy ***Azure Monitoring*** :
    1. ***Deploy metric***- to keep track of resource usage (e.g. CPU utilization) and spot bottlenecks or spikes beyond baselines established.
    2. Deploy ***Diagnostic Logs***.
    3. Deploy ***Log Analytics Workspaces***
    4. Utilize Azure- for assisting in monitoring four aspects of Azure { High availability, Security, Performance, Cost}
    5. Configure and deploy Alerts using triggers
12. Deploy ***Quotas******Management*** to control how users within departments for example the size disks or cpu cores that they can attach to Virtual Machines.
13. How can I access my servers remotely and securely? - Deploy ***Bastion*** hosts to access servers from remote locations.
14. Deploy ***Azure File Synch*** to have a faster and more liable connection to files stored on azure file servers. Azure file synch creates an offline cache, which aids in this process.
15. How can I mange my azure files without having to login to azure web portal or using Azure PowerShell? Install and use ***Azure File Explorer***.
16. How can I protect or limit access to azure files? Ensure to protect access to files using ***Azure Storage Firewall***. ***Service Endpoints*** can also be used to secure storage accounts from the outside.
17. Manage access keys by using **Azure Key Vault**.
18. Deploy Content Delivery Network (CDN) where necessary to create a faster and more efficient access to frequently requested web App files.
19. Configure and Deploy Azure File and Folder Backup using the **Azure Recovery Service Vault**- which can be used to backup files and folders on both on premise and azure resources.
20. When designing Azure solutions, be guided by Microsoft’s Architecture Models- <https://docs.microsoft.com/en-us/azure/architecture/industries/retail>



1. Considerations for Deploying and managing ***virtual machines***:
   1. Pre-flight considerations
      1. Networking- vnet subnets
      2. Naming conventions that are meaningful for proper governance.
   2. Regions, Availability and Pricing
      1. Region
      2. Availability Zones
      3. Pricing
   3. Virtual Machine Families
      1. General Purpose
      2. Compute Optimized
      3. Memory Optimized
      4. Storage Optimized
      5. GPU
      6. High Performance Compute
2. Deploy ***Virtual Machine Extensions*** where necessary - extensions can perform post deployment configurations. These extensions can be for example a fully configured backup application for a Cosmo dB database.
3. To minimize down times- ensure to carefully, select the most fitting ***Availability Zones*** and ***Availability sets*** for deploying resources (e.g. Virtual Machines).
4. Do I have the required pool of VMs to handle workloads? Deploy ***Scale sets.***
5. Is the load across Virtual Machines in a scale set efficiently distributed? - Deploy ***Azure Load Balancer.***
6. Are my servers applications delivering the services required in different regions- Why not use an ***Azure Traffic Manager***.
7. What do I have in place for Disaster Recovery and Business continuity? Deploy ***Azure Site Recovery service***- using the ***Azure Recovery services vault***- as it involves server replication.
8. Having created a fully functional azure network. How can I make a copy of this for backup and future deployment? The use of ***Azure Templates***- <https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/export-template-portal>
9. How can I get or see a topology view of my network? Configure and deploy ***Azure*** ***Network Watcher***.
10. How do a check for performance between various points in my azure network infrastructure? - Deploy ***Azure Network Performance Monitor***, along with other tools such as:
    1. ***On IP Flow Verify-****ping between servers to see things like latency or of connection is been made any at all.*
    2. ***On Next Hop***
11. How can I synchronize my on premise Active Directory DS with Azure Active Directory? - Deploy ***Azure AD Connect***.
12. Is traditional password access to the Azure Admin account sufficient? Deploy Azure ***Multifactor Authentication (MFA).***

***Very Importantly. Is that you do proper research, a backup game plan if anything breaks during implementation, have the requisite approvals, and justifications prior to implementing any of the above or not listed items, that can or could result in any down time or major changes to the organization’s productivity or compliance.***

**Deployment Checklist**

|  |  |  |  |
| --- | --- | --- | --- |
| **Main Tasks** | **Status-(Deployed or To be Deployed)** | **Description of Deployment.** | **Date of Deployment** |
| Securing Azure Admin Account | Deployed | Main Admin account, protected by MFA | Xx/xx/xx |
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