POWERSHELL – ADDS, WFC, SQLFC, AAG

ACTIVE DIRECTORY DOMAIN SERVICE

Nulladik lépésként ha tamplate-ből csináltunk VM-et akkor kell egy sysprep:

```
>$ Start-Process -FilePath C:\Windows\System32\Sysprep\Sysprep.exe \
- ArgumentList '/generalize /oobe /shutdown /quiet'
```

1. Fix IP cím és DNS server beállítása:

```
>$ Get-NetAdapter
>$ New-NetIPAddress –InterfaceAlias "<InterfaceName>" –IPAddress \
"<IPaddress>" –PrefixLength <Prefixnumber> -DefaultGateway <Gateway>
>$ Set-DnsClientServerAddress -InterfaceAlias "<InterfaceName>" \
-ServerAddresses <DNSServerAddress>
```

2. Hostname megváltoztatása:

```
>$ Rename-Computer -NewName "<NewHostName>" -Restart
```

3. ADDS telepítése, beállítása:

```
>$ Install-windowsfeature -name AD-Domain-Services,RSAT-ADDS,RSAT-DNS-Server
>$ Install-ADDSForest -DomainName "<DomainName(FQDN)>"
>$ Add-DnsServerPrimaryZone -NetworkID "<IP/prfx>" -ReplicationScope "Forest"
```

WINDOWS FAILOVER CLUSTER – THREE NODE

Nulladik lépésként sysprep (ahogyan az ADDS-nél)

Előfeltétel a VM-hez hozzáadott 2. SCSI Controller (SCSI Bus Sharing: Virtual) , Quorum disk (Thick provisioned - eagerly zeroed,Sharing: Multi-Write), SQL disk (SQLFC esetén)

1. Node1-en a quorum disk (+ SQL disk SQLFC esetén) inicializálása és formázása:

```
>$ Get-Disk | Where-Object IsOffline –Eq $True
>$ Initialize-Disk <DiskNumber> –PartitionStyle MBR
>$ New-Partition –DiskNumber <DiskNumber> –UseMaximumSize -DriveLetter Q
>$ Get-Volume
>$ Format-Volume -DriveLetter Q -FileSystem NTFS \
-NewFileSystemLabel Qourum -Confirm:$false
```

2. Node-ok Domain-be leptetése:

```
>$ Add-Computer -DomainName "<DomainName>" -DomainCredential Administrator \
-NewName "<NewHostName>" -Restart
```

3. Failover-Cluster Role telepítése, cluster validálása, új cluster létrehozása:

```
>$ Install-WindowsFeature -Name Failover-Clustering \
-IncludeManagementTools -Restart
>$ Test-Cluster -Node <NodeName1>, <NodeName2>, <NodeName3>
```

```
>$ New-Cluster -Name <ClusterName> -Node <NodeName1>, <NodeName2>, \
<NodeName3> -StaticAddress <ClusterIpaddress>
```

4. A Cluster-Aware Updating beállítása szükséges lehet (nincs ps script hozza)

SQL FAILOVER CLUSTER

Előfeltétel a meglevő Windows Failover Cluster

1. Group Management Service Account-ok létrehozása a DC-n:

```
>$ Add-KdsRootKey –EffectiveTime ((get-date).addhours(-10))
>$ New-ADSServiceAccount -Identity MSA-SQLA \
-PrincipalsAllowedToRetrieveManagedPassword \
"CN=<node1Name>,CN=Computers,DC=<DomainName>,DC=<DomainName>"
>$ Set-ADSServiceAccount -Identity MSA-SQLA \
-PrincipalsAllowedToRetrieveManagedPassword \
"CN=<node2Name>,CN=Computers,DC=<DomainName>,DC=<DomainName>"
>$ Set-ADSServiceAccount -Identity MSA-SQLA \
-PrincipalsAllowedToRetrieveManagedPassword \
"CN=<node3Name>,CN=Computers,DC=<DomainName>,DC=<DomainName>"
>$ New-ADSServiceAccount -Identity MSA-SQLD \
-PrincipalsAllowedToRetrieveManagedPassword \
"CN=<node1Name>,CN=Computers,DC=<DomainName>,DC=<DomainName>"
>$ Set-ADSServiceAccount -Identity MSA-SQLD \
-PrincipalsAllowedToRetrieveManagedPassword \
"CN=<node2Name>,CN=Computers,DC=<DomainName>,DC=<DomainName>"
>$ Set-ADSServiceAccount -Identity MSA-SQLD \
-PrincipalsAllowedToRetrieveManagedPassword \
"CN=<node3Name>,CN=Computers,DC=<DomainName>,DC=<DomainName>"
```

2. gMSA-ok beállítása minden node-on(Local Security Policy-ban a megfelelelo user jogok hozzá adása gMSAk-hoz – Lock Page In Memory, Perform volume maintenance tasks)

```
>$ Enable-WindowsOptionalFeature -FeatureName \
ActiveDirectory-Powershell -Online –All
>$ Install-AdServiceAccount MSA-SQLA
>$ Install-AdServiceAccount MSA-SQLD
```

3. SQL Cluster telepítése:

```
>$cd D:
>$ .\setup.exe /QS /ACTION=InstallFailoverCluster /INSTANCENAME=MSSQLSERVER \
/INDICATEPROGRESS  /FAILOVERCLUSTERNETWORKNAME="<ClusterName>" \
/FAILOVERCLUSTERIPADDRESSES="IPv4;<IPaddress>;ClusterNetwork2;255.255.255.0" \
/FAILOVERCLUSTERGROUP="MSSQLSERVER" \
/Features=SQL /AGTSVCACCOUNT="brlab\MSA-SQLA$" \
/SQLCOLLATION="SQL_Latin1_General_CP1_CS_AS" \
/SQLSVCACCOUNT="<brlab\MSA-SQLD$>"  \
/SQLSYSADMINACCOUNTS="<DomainName\UserName>" /IACCEPTSQLSERVERLICENSETERMS
```

4. SQL node-k hozzáadása az SQL clusterhez:

```
>$ .\setup.exe /QS /ACTION=AddNode /INSTANCENAME="MSSQLSERVER" \
/SQLSVCACCOUNT="brlab\MSA-SQLD$" /AGTSVCACCOUNT="brlab\MSA-SQLA$" \
/INDICATEPROGRESS /IACCEPTSQLSERVERLICENSETERMS \
/FAILOVERCLUSTERIPADDRESSES="IPv4;<IPAddress>;ClusterNetwork2;255.255.255.0" \
/CONFIRMIPDEPENDENCYCHANGE=0
```

SQL AVAILABILITY GROUP

Előfeltétel a meglevő Windows Failover Cluster

1. SQL Instance-ok telepitese:

```
>$ cd D:
>$
.\setup.exe /Q /ACTION=Install /FEATURES=SQLEngine /INSTANCENAME=MSSQLSERVER \
/SQLSVCACCOUNT="beta\MSA-SQLD$" /SQLSYSADMINACCOUNTS="<DomainName\UserName>" \
/AGTSVCACCOUNT="beta\MSA-SQLA$" /TCPENABLED=1 /SECURITYMODE=SQL \
/SAPWD=Password1. /IACCEPTSQLSERVERLICENSETERMS
```

2. Always On Avilability Group Enable checkbox mindegyik SQL node-on
3. AAG Wizard futtatása az SSMS-ból