

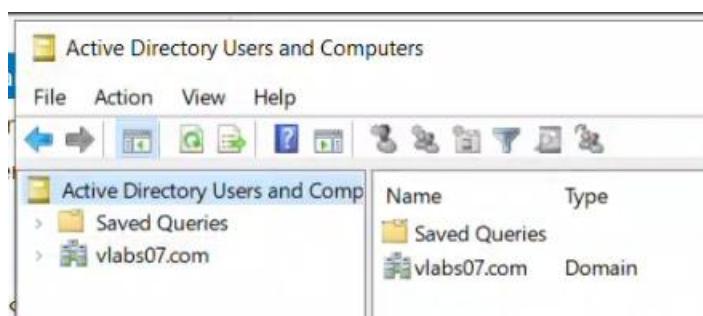
Lab 3 – Deploying Domain Controllers

■ Step 1: Configure DC107 (Primary Domain Controller)

■ Action:

- Remove the NAT network card (use internal network only)
- Install AD DS **using** Server Manager
- Promote to a new forest with domain name vlabs07.com
- Reboot and verify domain controller **setup**

Screenshot:

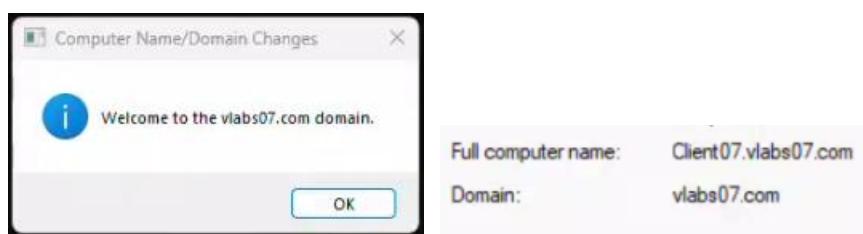


■ Step 2: Join Client07 to the Domain

■ Action:

- Join the domain vlabs07.com
- Reboot and login **using** domain credentials to test

Screenshot:



■ Step 3: Configure DC207 as Read-Only Domain Controller (RODC)

■ Action:

- Install AD DS **using** PowerShell
- Promote DC207 to RODC **using** domain credentials
- Reboot after promotion
- Validate that the server is a domain controller and marked as read-only
- Check replication status

Command:

```
-----  
Install-WindowsFeature -Name AD-Domain-Services -IncludeManagementTools  
  
Install-ADDSDomainController `  
    -DomainName "vlabs07.com" `  
    -Credential (Get-Credential) `  
    -ReadOnlyReplica `  
    -InstallDns `  
    -SiteName "Default-First-Site-Name" `  
    -NoGlobalCatalog:$false `  
    -LogPath "C:\Windows\NTDS" `  
    -SysvolPath "C:\Windows\SYSVOL" `  
    -Force
```

Validation:

```
-----  
Get-ADUser -Filter *  
Get-ADGroup -Filter *  
Get-ADOrganizationalUnit -Filter *
```

```
repadmin /showrepl
```

Screenshot:

```
PS C:\Users\Administrator> Install-WindowsFeature -Name AD-Domain-Services -IncludeManagementTools  
Success Restart Needed Exit Code      Feature Result  
-----  
True   No        Success      {Active Directory Domain Services, Group P...  
PS C:\Users\Administrator> Install-ADDSDomainController -DomainName "vlabs07.com" -Credential (Get-Credential) -ReadOnlyReplica -InstallDns -SiteName "Default-First-Site-Name" -NoGlobalCatalog:$false -LogPath "C:\Windows\NTDS" -SysvolPath "C:\Windows\SYSVOL" -Force
```

A screenshot of a Windows credential dialog box titled "Windows PowerShell credential request". It shows fields for "User name" (administrator@vlabs07.co) and "Password" (represented by a series of asterisks). At the bottom are "OK" and "Cancel" buttons.

```
 Loading entries.....  
 53 entries modified successfully.  
  
The command has completed successfully.  
Adprep successfully updated the schema.  
  
You're about to be signed out  
The computer is being restarted because Active Directory Domain Services was installed or removed.  
Close  
  
Adprep successfully updated the schema.  
  
Message Context RebootRequired Status  
-----  
Operation completed successfully DCPromo.General.1 False Success  
  
PS C:\Users\Administrator>  
PS C:\Users\Administrator>  
PS C:\Users\Administrator>  
===== Welcome to Windows Server 2025 Standard =====  
=====  
1) Domain/workgroup: [Domain: vlabs07.com]  
2) Computer name: DC207  
3) Add local administrator  
4) Remote management: Enabled  
  
PS C:\Users\Administrator.VLABS07> repadmin /showrepl  
  
Readmin: running command /showrepl against full DC localhost  
Default-First-Site-Name\DC207  
DSA Options: IS_GC DISABLE_OUTBOUND_REPL IS_RODC  
Site Options: (none)  
DSA object GUID: 2e1fb4df-8843-4a21-b2bc-9e6421c541f2  
DSA invocationID: ec87b22d-f02d-4c93-b2c6-2b7e95497187  
  
===== INBOUND NEIGHBORS =====  
  
DC=vlabs07,DC=com  
  Default-First-Site-Name\DC107 via RPC  
    DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04  
    Last attempt @ 2025-05-05 17:34:24 failed, result 1908 (0x774):  
      Could not find the domain controller for this domain.  
    1 consecutive failure(s).  
    Last success @ 2025-05-05 17:32:50.  
  
CN=Configuration,DC=vlabs07,DC=com  
  Default-First-Site-Name\DC107 via RPC  
    DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04  
    Last attempt @ 2025-05-05 17:34:24 failed, result 1908 (0x774):  
      Could not find the domain controller for this domain.  
    1 consecutive failure(s).  
    Last success @ 2025-05-05 17:32:46.
```

```
CN=Schema,CN=Configuration,DC=vlabs07,DC=com
Default-First-Site-Name\DC107 via RPC
    DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04
    Last attempt @ 2025-05-05 17:34:24 failed, result 1908 (0x774):
        Could not find the domain controller for this domain.
    1 consecutive failure(s).
    Last success @ 2025-05-05 17:32:46.

DC=DomainDnsZones,DC=vlabs07,DC=com
Default-First-Site-Name\DC107 via RPC
    DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04
    Last attempt @ 2025-05-05 17:34:24 failed, result 1908 (0x774):
        Could not find the domain controller for this domain.
    1 consecutive failure(s).
    Last success @ 2025-05-05 17:32:50.

DC=ForestDnsZones,DC=vlabs07,DC=com
Default-First-Site-Name\DC107 via RPC
    DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04
    Last attempt @ 2025-05-05 17:34:24 failed, result 1908 (0x774):
        Could not find the domain controller for this domain.
    1 consecutive failure(s).
    Last success @ 2025-05-05 17:32:50.

PS C:\Users\Administrator.VLabs07> Get-ADUser -Filter *
```



```
DistinguishedName : CN=Guest,CN=Users,DC=vlabs07,DC=com
Enabled          : False
GivenName        :
Name             : Guest
ObjectClass      : user
ObjectGUID       : 1cdf9a94-994f-4d87-98a2-cbf518297b8b
SamAccountName   : Guest
SID              : S-1-5-21-2428485534-1961598418-1246186656-501
Surname          :
UserPrincipalName :

DistinguishedName : CN=Administrator,CN=Users,DC=vlabs07,DC=com
Enabled          : True
GivenName        :
Name             : Administrator
ObjectClass      : user
ObjectGUID       : 05026921-16a3-4860-b4de-409acdd21f0d
SamAccountName   : Administrator
SID              : S-1-5-21-2428485534-1961598418-1246186656-500
Surname          :
UserPrincipalName :
```

```
PS C:\Users\Administrator.VLABS07> Get-ADGroup -Filter *
```

```
DistinguishedName : CN=Administrators,CN=BuiltIn,DC=vlabs07,DC=com
GroupCategory     : Security
GroupScope        : DomainLocal
Name              : Administrators
ObjectClass       : group
ObjectGUID        : b52c2ee1-5e0c-48ce-9eb4-80a5b6abe41c
SamAccountName   : Administrators
SID               : S-1-5-32-544

DistinguishedName : CN=Users,CN=BuiltIn,DC=vlabs07,DC=com
GroupCategory     : Security
GroupScope        : DomainLocal
Name              : Users
ObjectClass       : group
ObjectGUID        : 891c5ce8-81c9-4f33-ba89-b21bf52a9bcf
SamAccountName   : Users
SID               : S-1-5-32-545

DistinguishedName : CN=Guests,CN=BuiltIn,DC=vlabs07,DC=com
GroupCategory     : Security
GroupScope        : DomainLocal
Name              : Guests
ObjectClass       : group
ObjectGUID        : 8ebea6a1-a4ad-4992-8e4f-49d8aef8b70c
SamAccountName   : Guests
SID               : S-1-5-32-546
```

```
PS C:\Users\Administrator.VLABS07> Get-ADOrganizationalUnit -Filter *
```

```
City          :
Country       :
DistinguishedName : OU=Domain Controllers,DC=vlabs07,DC=com
LinkedGroupPolicyObjects : {CN={6AC1786C-016F-11D2-945F-00C04FB984F9},CN=Policies,CN=System,DC=vlabs07,DC=com}
ManagedBy     :
Name          : Domain Controllers
ObjectClass   : organizationalUnit
ObjectGUID    : 5c743e88-d16f-4155-94fb-b5aba3c51a4b
PostalCode    :
State         :
StreetAddress :
```

■ Step 4: Deploy DC307 as Child Domain Controller

■ Action:

- Install AD DS **using** PowerShell
- Promote DC307 to a new child domain under vlabs07.com
- Reboot after promotion
- Validate the new child domain

Command:

```
-----  
Install-WindowsFeature -Name AD-Domain-Services -IncludeManagementTools  
  
Install-ADDSDomain  
-NoGlobalCatalog:$false  
-CreateDnsDelegation:$true  
-Credential (Get-Credential)  
-DatabasePath "C:\Windows\NTDS"  
-DomainMode "winThreshold"  
-DomainType "ChildDomain"  
-InstallDns:$true  
-LogPath "C:\Windows\NTDS"  
-NewDomainName "lab07"  
-NewDomainNetbiosName "LAB07"  
-ParentDomainName "vlabs07.com"  
-NoRebootOnCompletion:$false  
-SiteName "Default-First-Site-Name"  
-SysvolPath "C:\Windows\SYSVOL"  
-Force:$true
```

Screenshot:

```
PS C:\Users\Administrator> Install-WindowsFeature -Name AD-Domain-Services -IncludeManagementTools  
Start Inst  
Success Restart Needed Exit Code      Feature Result  
-----  
True   No          Success      {Active Directory Domain Services, Group P... 000000000000  
PS C:\Users\Administrator> Install-ADDSDomain -NoGlobalCatalog:$false -CreateDnsDelegation:$true  
-Credential (Get-Credential) -DatabasePath "C:\Windows\NTDS" -DomainMode "winThreshold" -DomainType "ChildDomain" -InstallDns:$true -LogPath "C:\Windows\NTDS" -NewDomainName "lab07" -NewDomainNetbiosName "LAB07" -ParentDomainName "vlabs07.com" -NoRebootOnCompletion:$false -SiteName "Default-First-Site-Name" -SysvolPath "C:\Windows\SYSVOL" -Force:$true  
Windows PowerShell credential request ? X  
  
Enter your credentials.  
User name: administrator@vlabs07.co  
Password:   
OK Cancel  
  
Install-ADDSDomain  
Determining replication source DC  
Validating environment and user input  
All tests completed successfully  
[oooooooooooooooooooooooooooooooooooooooooooo]  
Installing new domain  
Waiting for DNS installation to finish  
For more information about this setting, see Knowledge Base article 942564  
(http://go.microsoft.com/fwlink/?LinkId=104751).  
WARNING: Windows Server 2022 domain controllers have a default for the security setting named  
"Allow cryptography algorithms compatible with Windows NT 4.0" that prevents weaker  
cryptography algorithms when establishing security channel sessions.  
For more information about this setting, see Knowledge Base article 942564  
(http://go.microsoft.com/fwlink/?LinkId=104751).
```

Validation:

```
Get-ADDomain -Identity "lab07.vlabs07.com"
PS C:\Users\Administrator> Get-ADDomain -Identity "lab07.vlabs07.com"

AllowedDNSSuffixes          : {}
ChildDomains                 : {}
ComputersContainer           : CN=Computers,DC=lab07,DC=vlabs07,DC=com
DeletedObjectsContainer      : CN=Deleted Objects,DC=lab07,DC=vlabs07,DC=com
DistinguishedName            : DC=lab07,DC=vlabs07,DC=com
DNSRoot                      : lab07.vlabs07.com
DomainControllersContainer   : OU=Domain Controllers,DC=lab07,DC=vlabs07,DC=com
DomainMode                    : Windows2016Domain
DomainSID                     : S-1-5-21-987840292-880875472-4280997625
ForeignSecurityPrincipalsContainer : CN=ForeignSecurityPrincipals,DC=lab07,DC=vlabs07,DC=com
Forest                        : vlabs07.com
InfrastructureMaster           : DC307.lab07.vlabs07.com
LastLogonReplicationInterval : 
LinkedGroupPolicyObjects      : {CN={31B2F340-016D-11D2-945F-00C04FB984F9},CN=Policies,CN=System,DC=lab07
LostAndFoundContainer         : CN=LostAndFound,DC=lab07,DC=vlabs07,DC=com
ManagedBy                     : 
Name                          : lab07
NetBIOSName                   : LAB07
ObjectClass                   : domainDNS
ObjectGUID                    : d5607170-54b7-43f5-ad53-0c4ae91644a7
ParentDomain                  : vlabs07.com
PDCEmulator                   : DC307.lab07.vlabs07.com
repadmin /showrepl
```

```
PS C:\Users\Administrator> repadmin /showrepl

Readmin: running command /showrepl against full DC localhost
Default-First-Site-Name\DC307
DSA Options: IS_GC
Site Options: (none)
DSA object GUID: a55bfd93-524c-4c2c-990a-f2ab0d7f10de
DSA invocationID: 80e920e4-9dd0-4e07-8a4a-bb5dfe58f7e8

===== INBOUND NEIGHBORS =====

CN=Configuration,DC=vlabs07,DC=com
  Default-First-Site-Name\DC107 via RPC
    DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04
    Last attempt @ 2025-05-05 20:07:25 failed, result 1908 (0x774):
      Could not find the domain controller for this domain.
    1 consecutive failure(s).
    Last success @ 2025-05-05 20:05:50.

CN=Schema,CN=Configuration,DC=vlabs07,DC=com
  Default-First-Site-Name\DC107 via RPC
    DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04
    Last attempt @ 2025-05-05 20:07:25 failed, result 1908 (0x774):
      Could not find the domain controller for this domain.
    1 consecutive failure(s).
    Last success @ 2025-05-05 20:05:50.
```

```

DC=vlabs07,DC=com
Default-First-Site-Name\DC107 via RPC
DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04
Last attempt @ 2025-05-05 20:13:40 was successful.

Source: Default-First-Site-Name\DC107
***** 1 CONSECUTIVE FAILURES since 2025-05-05 20:05:50
Last error: 1908 (0x774):
    Could not find the domain controller for this domain.

```

Step 5: Validate All Domain Controllers

■ Action:

- Verify that all domain controllers are active and reachable
- Confirm replication is working across the forest and child domain
- Use PowerShell to confirm role, replication, and domain structure

Commands:

```
-----
Get-ADDomainController -Filter * | Select Name, HostName, IsReadOnly, Site,
repadmin /replsummary
repadmin /showrepl
Get-ADDomain -Identity "vlabs07.com"
Get-ADDomain -Identity "lab07.vlabs07.com"
```

Screenshot:

```
PS C:\Users\Administrator.VLABS07> Get-ADDomainController -Filter * | Select Name, HostName, Site, IsReadOnly
-----
```

Name	HostName	Site	IsReadOnly
DC107	DC107.vlabs07.com	Default-First-Site-Name	False
DC207	DC207.vlabs07.com	Default-First-Site-Name	True

```
PS C:\Users\Administrator.VLABS07> Get-ADDomain -Identity "lab07.vlabs07.com"

AllowedDNSSuffixes : {}
ChildDomains : {}
ComputersContainer : CN=Computers,DC=lab07,DC=vlabs07,DC=com
DeletedObjectsContainer : CN=Deleted Objects,DC=lab07,DC=vlabs07,DC=com
DistinguishedName : DC=lab07,DC=vlabs07,DC=com
DNSRoot : lab07.vlabs07.com
DomainControllersContainer : OU=Domain Controllers,DC=lab07,DC=vlabs07,DC=com
DomainMode : Windows2016Domain
DomainSID : S-1-5-21-987840292-880875472-4280997625
ForeignSecurityPrincipalsContainer : CN=ForeignSecurityPrincipals,DC=lab07,DC=vlabs07,DC=com
Forest : vlabs07.com
InfrastructureMaster : DC307.lab07.vlabs07.com
LastLogonReplicationInterval :
LinkedGroupPolicyObjects : {CN={31B2F340-016D-11D2-945F-00C04FB984F9},CN=Policies,CN=System,DC=lab07,DC=vlabs07,DC=com}
LostAndFoundContainer : CN=LostAndFound,DC=lab07,DC=vlabs07,DC=com
ManagedBy :
Name : lab07
NetBIOSName : LAB07
ObjectClass : domainDNS
ObjectGUID : d5607170-54b7-43f5-ad53-0c4ae91644a7
ParentDomain : vlabs07.com
PDCEmulator : DC307.lab07.vlabs07.com
PublicKeyRequiredPasswordRolling : True
QuotasContainer : CN=NTDS Quotas,DC=lab07,DC=vlabs07,DC=com
ReadOnlyReplicaDirectoryServers : {}
ReplicaDirectoryServers : {DC307.lab07.vlabs07.com}
RIDMaster : DC307.lab07.vlabs07.com
SubordinateReferences : {DC=DomainDnsZones,DC=lab07,DC=vlabs07,DC=com}
```

```
PS C:\Users\Administrator.VLABS07> Get-ADDomain -Identity "vlab07.com"

AllowedDNSSuffixes          : {}
ChildDomains                : {lab07.vlabs07.com}
ComputersContainer           : CN=Computers,DC=vlabs07,DC=com
DeletedObjectsContainer     : CN=Deleted Objects,DC=vlabs07,DC=com
DistinguishedName           : DC=vlabs07,DC=com
DNSRoot                     : vlab07.com
DomainControllersContainer  : OU=Domain Controllers,DC=vlabs07,DC=com
DomainMode                  : Windows2016Domain
DomainSID                   : S-1-5-21-2428485534-1961598418-1246186656
ForeignSecurityPrincipalsContainer : CN=ForeignSecurityPrincipals,DC=vlabs07,DC=com
Forest                      : vlab07.com
InfrastructureMaster          : DC107.vlab07.com
LastLogonReplicationInterval : {CN={31B2F340-016D-11D2-945F-00C04FB984F9},CN=Policies,CN=System,DC=vlabs07,DC=com}
LinkedGroupPolicyObjects      : CN=LostAndFound,DC=vlabs07,DC=com
LostAndFoundContainer        :
ManagedBy                   :
Name                         : vlab07
NetBIOSName                 : VLABS07
ObjectClass                  : domainDNS
ObjectGUID                   : d5562c79-261e-46ec-918e-b37c3bbcf0b0
ParentDomain                 :
PDCEmulator                 : DC107.vlab07.com
PublicKeyRequiredPasswordRolling : True
QuotasContainer               : CN=NTDS Quotas,DC=vlabs07,DC=com
ReadOnlyReplicaDirectoryServers : {DC207.vlab07.com}
ReplicaDirectoryServers       : {DC107.vlab07.com}
RIDMaster                    : DC107.vlab07.com
SubordinateReferences         : {DC=lab07,DC=vlabs07,DC=com, DC=ForestDnsZones,DC=vlabs07,DC=com, DC=DomainDnsZones,DC=vlab
SystemsContainer              : CN=System,DC=vlabs07,DC=com
```

```
PS C:\Users\Administrator.VLABS07> repadmin /replicsummary
Replication Summary Start Time: 2025-05-05 20:56:52

Beginning data collection for replication summary, this may take awhile:
.....
Source DSA          largest delta    fails/total % error
DC107                08m:13s      0 / 10   0
DC307                08m:13s      0 /  8   0

Destination DSA      largest delta    fails/total % error
DC107                05m:31s      0 /  4   0
DC207                08m:13s      0 / 10   0
DC307                04m:59s      0 /  4   0
```

```
PS C:\Users\Administrator.VLABS07> repadmin /showrepl

Readmin: running command /showrepl against full DC localhost
Default-First-Site-Name\DC207
DSA Options: IS_GC DISABLE_OUTBOUND_REPL IS_RODC
Site Options: (none)
DSA object GUID: 2e1fb4df-8843-4a21-b2bc-9e6421c541f2
DSA invocationID: ec87b22d-f02d-4c93-b2c6-2b7e95497187

===== INBOUND NEIGHBORS =====

DC=lab07,DC=vlabs07,DC=com
  Default-First-Site-Name\DC307 via RPC
    DSA object GUID: a55bfd93-524c-4c2c-990a-f2ab0d7f10de
    Last attempt @ 2025-05-05 20:48:39 was successful.
  Default-First-Site-Name\DC107 via RPC
    DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04
    Last attempt @ 2025-05-05 20:48:39 was successful.

DC=vlabs07,DC=com
  Default-First-Site-Name\DC107 via RPC
    DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04
    Last attempt @ 2025-05-05 20:57:40 was successful.

CN=Configuration,DC=vlabs07,DC=com
  Default-First-Site-Name\DC307 via RPC
    DSA object GUID: a55bfd93-524c-4c2c-990a-f2ab0d7f10de
    Last attempt @ 2025-05-05 20:48:39 was successful.
  Default-First-Site-Name\DC107 via RPC
    DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04
    Last attempt @ 2025-05-05 20:48:39 was successful.

CN=Schema,CN=Configuration,DC=vlabs07,DC=com
  Default-First-Site-Name\DC107 via RPC
    DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04
    Last attempt @ 2025-05-05 20:48:39 was successful.
  Default-First-Site-Name\DC307 via RPC
    DSA object GUID: a55bfd93-524c-4c2c-990a-f2ab0d7f10de
    Last attempt @ 2025-05-05 20:48:39 was successful.

DC=DomainDnsZones,DC=vlabs07,DC=com
  Default-First-Site-Name\DC107 via RPC
    DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04
    Last attempt @ 2025-05-05 20:48:39 was successful.

DC=ForestDnsZones,DC=vlabs07,DC=com
  Default-First-Site-Name\DC307 via RPC
    DSA object GUID: a55bfd93-524c-4c2c-990a-f2ab0d7f10de
    Last attempt @ 2025-05-05 20:48:39 was successful.
  Default-First-Site-Name\DC107 via RPC
    DSA object GUID: b0109ddf-b8df-471c-9eba-66dbd5007c04
    Last attempt @ 2025-05-05 20:48:39 was successful.
```