Module 5: AD Replication

# Objective

The goal of this module is to help the attendees to get familiar with the AD Replication technology, including,

1. The concept of AD replication
   1. AD Replication Model
   2. AD Replication Topology
2. Basic troubleshooting of AD Replication.

# Prerequisite

Attendees are recommended to complete the following modules before getting on this:

1. Basic AD introduction
2. DNS
3. Domain Setup
4. Functional Level

Better if experiences are available in the following fields:

1. Basic TCP/IP
2. Authentication
3. Basic understanding of Remote Procedure Call (RPC)

# Readiness Plan

Go through the checklist to get familiar with AD replication:

|  |  |
| --- | --- |
| Topics | Materials |
| Concept: AD Replication Model | * Lesson 1 in ADRepl\_Workbook.docx * [Active Directory Replication Model Technical Reference](http://technet.microsoft.com/en-us/library/cc782376(v=ws.10).aspx) |
| Concept: AD Replication Topology | * Lesson 2 in ADRepl\_Workbook.docx * [Active Directory Replication Topology Technical Reference](http://technet.microsoft.com/en-us/library/cc755326(v=ws.10).aspx) |
| Troubleshooting: Reading | * [Troubleshooting Active Directory Replication Problems](http://technet.microsoft.com/en-us/library/bb727057.aspx) * Check AD Replication Troubleshooting.doc |
| Troubleshooting: Lab | * Complete the labs in ADRepl\_Lab.docx |
| Review: Recall the memory | * Check: ADRepl.ppt |

# Reference

Refer to the following checklist in case if any item is interested:

|  |  |
| --- | --- |
| Topics | Materials |
| Domain Functional Levels | * [Understanding Domain and Forest Functional Levels](http://technet.microsoft.com/en-us/library/cc771294.aspx) * [Active Directory Functional Levels Technical Reference](http://technet.microsoft.com/en-us/library/cc757019(v=ws.10).aspx) |
| DNS | * Module 2: DNS |
| Authentication | * Module 8: Authentication |
| Remote Procedure Call | * [RPC Technical Reference](http://technet.microsoft.com/en-us/library/cc759499(v=ws.10).aspx) * [Active Directory Replication Over Firewalls](http://social.technet.microsoft.com/wiki/contents/articles/584.active-directory-replication-over-firewalls.aspx) |
| TCP/IP | * [TCP/IP Technical Reference](http://technet.microsoft.com/en-us/library/cc778264(v=WS.10).aspx) |

# Self-Assessment

Q1. What does “Multimaster loose consistency with convergence maintains data integrity” mean?

Q2. What does “Pull replication” mean?

Q3. What is USN?

Q4. What is the “Change Notification”, and how will it be used in replication?

Q5. What is the “Authoritative Restore”, and how is it accomplished?

Q6. Describe the differences between inter-site and intra-site replication.

Q7. What are KCC and ISTG?

Q8. What is “USN Rollback”, and how we can resolve it?

Q9. How to force AD Replication to happen immediately, and how to troubleshoot it if the error “RPC Server is available” is returned?

Q10. List the tools you have used so far when you reach this question, and describes the purpose of them.