Linux and Windows Integration Using Samba and other Tools (4 days)

How to integrate your Linux/Unix systems with Microsoft Windows in an Heterogeneous environment

Relevant Platforms:

- **Linux / Unix**
- **Windows Server 2012 R2**
- **Windows 8.1**
- **Samba**

You will learn how to

- Install and build Samba
- Configure Samba
- Create and manage shares
- Create and manage printers
- Understand and implement Samba security and authentication options
- Deploy Samba clients
- Configure and manage Samba as an Active Directory domain controller
- Configure Samba as a file and print server
- Manage users and groups across Active Directory and Linux/Unix
- Configure authentication on Linux to Active Directory
- Implement name resolution using DNS, WINS and other technologies
- Learn how to best configure and manage share and file permissions, including cross platform access control lists (ACLs)
- Understand when to use different Windows, Linux and Samba tools

Course Benefits

Many environments contain a mixture of Windows and Linux servers and clients. Others are migrating Windows services to Linux and vice versa.

Integrating the Windows and Linux worlds into a unified network, sharing services and centralising users and groups is a complex undertaking. Choosing the best approach and tools from a wide variety of options requires a good understanding of the technologies and solutions available.

This course provides a detailed and practical insight into how to implement cross-platform solutions in a variety of different scenarios. The course focuses on the primary Open Source cross-platform integration tool; Samba.

In this course you will learn how to install, configure and implement Samba to solve a range of cross-platform integration problems. These include integration with Active Directory, File and Printer services and replacing Active Directory domain controllers using Samba domain controllers.

This course includes extensive hands-on practical exercises.

Who Should Attend

This course is ideal for network and server administrators responsible for integrating Microsoft and Linux/Unix environments.

A good knowledge of general networking concepts and a basic understanding of Windows and Linux is assumed.

Course Contents

Windows and Linux Integration Overview

- Windows networking
- NetBIOS
- Server Message Block (SMB)
- Naming services
- Active Directory
- Linux/Unix networking
- NIS & DNS
- Kerberos & LDAP
- NFS
- Overview of integration technologies
- Microsoft Identity Management for UNIX
- Samba
- Third party products

Introduction to Samba

- What is Samba
- File sharing and printer services
- Name services
- Authentication models and roles
- Integration with Unix and Linux
- Active Directory and Samba

Installing Samba

- Obtaining Samba
- Building and compiling Samba
- Installing Samba
- Testing the installation

Configuring Samba

- Starting and stopping Samba daemons
- Controlling the Samba daemons
- The Samba configuration file smb.conf
- Important configuration files
- Samba tools; net, smbcontrol & pdbedit
- Viewing Samba's status
- Debugging samba

Configuring Samba as a Client

- Basic principles
- Network configuration
- Joining an Active Directory domain
- Mounting shares
- Auto mounting home drives

Configuring Home Directories

- Defining home directories
- Samba templates
- rfc2307 and Samba
- Mounting home directories
- pam_mount and autofs

File Sharing and Samba

- Overview of Networked File systems
- CIFS, SMB2 and SMB3
- Windows file-system model
- Unix/Linux file-system model
- Creating and managing shares
- File names
- File Access Control Lists (ACLs)
- POSIX, NFSv4 and Windows ACLs
- Links and Symbolic Links
- Special attributes
- Locking and locking options
- The Unix CIFS extensions

Configuring Samba as a Print Server

- Samba and printing
- Configuring CUPS printing
- Configuring LPD printing
- Configuring shared printers

Understanding Naming Services

- Resolving host and domain names
- DNS, LDAP,NIS, NetBIOS, WINS, LLMNR, mDNS, hosts file and LMHOSTS
- Name Service Switch (NSS)

Identity Management

- Windows and Linux Identities
- Role of Name Service Switch (NSS)
- LDAP DNs
- Kerberos SPN
- Identity stores
- Identity mapping services
- Samba's Winbind and idmap
- Configuring and testing identity solutions

Cross Platform Authentication

- Overview of authentication
- Active Directory authentication methods
- Linux/Unix authentication
- Kerberos Authentication
- LDAP Authentication
- Pluggable Authentication Modules (PAM)
- Samba's Windbind and authentication
- Configuring and testing authentication

Configuring Samba as an Active Directory Domain Controller

- Understanding Samba4
- Migrating to Samba4 from Samba3
- Migrating to Samba4 from Windows
- Time synchronisation
- Configuring DNS for Samba
- Deploying Samba4
- Samba4 deployment options
- Managing Samba4

Advanced Samba Active Directory

- BIND as a DNS backend
- Replication
- Manage Flexible Single Master Roles
- Joining Samba DC to existing domain
- Samba and IPv6

Managing Samba

- Samba management tools
- Understanding Samba logging
- Windows management tools

Hands-on Samba Practical Labs

Each module includes detailed exercises.

The Samba Trainers

All our trainers are practising network consultants with extensive experience of Samba and cross platform integration technologies. They are ideally suited to bringing you the highest quality of training.

The Company

For further information about Erion see our web-site at http://www.erion.co.uk.

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