

# UNIFY SOLUTIONS

UNIFY SOLUTIONS TRAINING SERIES ADAM505

## Implementing, Deploying and Maintaining Microsoft Active Directory Application Mode

### Introduction

Unify Solutions has developed this 4 day course based on Microsoft Active Directory Application Mode (ADAM) to provide a variety of professionals with the skills they need to implement, deploy and maintain ADAM directories – it is also aimed at those simply wishing to get a detailed view of ADAM and its capabilities.

### Audience

The course is aimed at:

- IT Professionals with Active Directory skills who have a responsibility for Microsoft Active Directory Application Mode (ADAM) within the Enterprise
- IT Professionals who have some LDAP skills and wish to understand the specifics of ADAM
- Developers who need a grounding in ADAM, its architecture, interfaces and other relevant implications – but for the avoidance of doubt, this is not a complete coverage of how to develop and program against ADAM
- Anyone wishing to gain a thorough technical grounding in ADAM

In all cases – for those without Active Directory skills, some pre-reading is strongly advised.

### At Course Completion

At the end of this course, the student will be able to:

- Identify suitable scenarios for ADAM implementations.
- Understand ADAM functionality and architecture.
- Handle different types of authentication.
- Issue LDAP commands and queries.
- Install backup, restore and troubleshoot ADAM.
- Configure ADAM for a variety of purposes.
- Use groups and roles for access control.
- Understand how ADAM can be accessed programmatically.

### Prerequisites

The course assumes no prior knowledge of ADAM and covers the design, implementation and maintenance of solutions employing ADAM. The course is designed for those with an understanding Windows 2000 or 2003 and Active Directory. A general grounding in other directory services would also be acceptable.

### Microsoft Certified Professional Exams

No MCP exam currently exists for this course.

### Student Materials

The student kit includes a comprehensive workbook and other necessary materials for this class.

### About Unify Solutions

Unify Solutions specialises in identity and access management with operations in North America and Europe, Unify Solutions have an enviable repository of MIIS 2003 expertise and knowledge. Services include: strategic and functional consulting; system integration; solution development; and identity training.

Microsoft selected Unify Solutions to produce and deliver the first training courses on MIIS 2003. We have delivered over 100 enterprise identity solutions based on MIIS and have trained over 2000 people on MIIS – including some of Microsoft's own consultants.

To discuss your Identity and Access Management requirements, please contact us.

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# Course Outline

## Module 1 – Introduction to ADAM

- What is a directory? Information store: object hierarchy; use with network resources and physical resources. Human resources and identity information. Directory schema and examples. Contrast with Active Directory, and with relational and other databases.
- Why use a directory? Administration, storage and security advantages.
- Central and distributed design options.
- What is ADAM? Application mode service, lightweight, portable, multiple instances.
- Introduction to LDAP
- ADAM scenarios overview: Internet portals, Application store, Authorization Manager.
- LAB 1: Examining the Lab environment for the course: Virtual Machines, ADAM installations, tools etc.

## Module 2 – Functions of ADAM

- Authorization: Users, groups and roles; objects; permissions.
- ADAM model: Partitions; configuration sets; organizational units; groups; users; roles.
- Accounts and ACLs: Use of dscls.exe.
- Authentication: ADAM administrator; connection and binding; SSL. Windows principal. ADAM principal. User Proxy accounts.
- Administration: Admin user; admin groups.
- Tools: ADAM ADSI Edit; LDP.
- LAB 2A: Browsing ADAM with ADSI edit and LDP, performing a simple query, accessing the ADAM store from applications.
- Lab 2B: Creating users and groups; adding users to groups.
- Lab 2C: Examining permissions; testing permissions.

## Module 3 – LDAP

- What is LDAP? Directory protocol. RFCs. LDAP objects: containers; distinguished names; schema and OIDs; inheritance; referrals.
- Authentication: Bind types: anonymous; simple LDAP; SASL; bind redirection.
- LDAP queries: Filters; scope.
- LDAP options: Bind options; connection options; flags; messages.
- LDAP schema: Classes; attributes.
- LAB 3A: submitting LDAP commands to ADAM.
- Lab 3B: binding as Windows principal and ADAM principal.
- Lab 3C: Examining the ADAM schema: ADAM schema snap-in.

## Module 4 – ADAM Architecture

- Overview: Map of ADAM with services; datastore; client; interfaces.

- Files: ESE and the DSA; log files; location of program files.
- Auditing counters and performance files.
- Other platforms: Microsoft XP
- Logical architecture: Configuration sets; partitions; schema.
- Replication: ADAM sites: multi-master.
- LAB 4: Browsing the installation directory, exporting data, exporting schema objects.

## Module 5 – Installation

- Installation issues: Platform; hardware.
- Installation Wizard
- Scripted Installation: Answer files
- Troubleshooting: Error messages returned by ADSI and LDAP; LDAP reference errors.
- LAB5A: Installing using the wizard; building an answer file.
- LAB5B: Installing a second instance using the wizard.
- LAB5C: Scripted install; using an answer file.
- LAB5D: Performance Monitor: counters for DS, DSA, LDAP

## Module 6 – Configuration and Management

- Importing contents with LDIFDE: schema; data; LDIFDE options; configuration tools; changing bind options; users and groups.
- Replication: central versus distributed access; load balancing, fault tolerance; replication schedules and monitoring; repadmin.exe.
- Authentication and Authorization: permissions; ACLs; SSL certificates.
- The ADAM Namespace; Using ADAM to access AD; Using VB Script; Using VB.NET/Visual C#.
- Management: backup and restore; restoring to different instance; distributing ADAM instances.
- Troubleshooting.
- LAB 6A: Importing data; importing schema changes.
- LAB 6B: Backing up an ADAM instance; uninstalling ADAM; restoring ADAM. Restoring to a separate instance (replica).
- LAB 6C: Configuring and monitoring replication.
- LAB 6D: Changing and testing permissions; installing and using an SSL certificate.
- LAB 6E: Script example; VB example.

## Module 7 – ADAM and Active Directory

- Comparison of ADAM and AD: MAPI; SAM.
- AD snap-ins: ADU&C
- Schema: Awareness of schema differences
- Kerberos: Sign and seal; SSL comparison; authentication; secure queries.

- Proxy Authentication: Windows authentication; NT and proxy binding; userProxy object; SIDs.
- What's new in R2?
- LAB 7A: Using AD Users and Computers
- LAB 7B: Proxy authentication

## Module 8 – Scenarios

- Authorization Manager (AZMan): Roles, compared with use of Access Control Lists; introduction to AZman; ms-azman import, AZMan snap-in: setting up to use ADAM as store; AZMan set-up; importing LDIF.
- AD/ADAM synchronization tool
- MIIS (Microsoft Identity Integration Server): What it is; relevance to ADAM; scenarios (including the IIFP version).
- Internet portal: Scenario.
- LAB 8: Sample scenario.