



**Australian Government**

# **ICTNWK401 Install and manage a server**

**Release: 1**

# ICTNWK401 Install and manage a server

## Modification History

| Release   | Comments                                                                                                     |
|-----------|--------------------------------------------------------------------------------------------------------------|
| Release 1 | This version first released with ICT Information and Communications Technology Training Package Version 1.0. |

## Application

This unit describes the skills and knowledge required to install and manage a server. Server management includes initial configuration and testing, ongoing administration, software distribution and updates, profiling and monitoring servers, and troubleshooting.

It applies to individuals with competent information and communications technology (ICT) skills, employed in network management or server administration roles.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

## Unit Sector

Networking

## Elements and Performance Criteria

| ELEMENT                                          | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i> | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                                                                                                                                                                                                                        |
| 1. Prepare to install a server                   | 1.1 Prepare for work, according to site specific safety requirements and enterprise workplace health and safety (WHS) processes and procedures<br>1.2 Obtain server applications and features from appropriate person<br>1.3 Choose most suitable operating system features and network services with reference to required server solution and technical requirements<br>1.4 Review required installation options<br>1.5 Analyse data migration requirements |

| ELEMENT                                            | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                    | 1.6 Back up local data in preparation for installation<br>1.7 Arrange access to site and advise client of deployment and potential down time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2. Install server as required by the specification | 2.1 Create disk partitioning scheme<br>2.2 Create file systems and virtual memory<br>2.3 Install network operating system<br>2.4 Install and configure server applications and network services<br>2.5 Reconnect and reconfigure connectivity devices<br>2.6 Patch the operating system and applications to ensure maximum security and reliability<br>2.7 Restore local data to new server                                                                                                                                                                                                                                                                                                                  |
| 3. Configure and administer the server             | 3.1 Configure network directory service<br>3.2 Create and manage accounts to facilitate security and network access<br>3.3 Configure user environment using operating system policies and scripts<br>3.4 Create directory structure and quotas to meet client requirements<br>3.5 Configure and manage print services<br>3.6 Set the security, access and sharing of system resources to meet client requirements<br>3.7 Implement security policy to prevent unauthorised access to the system<br>3.8 Implement backup and recovery methods to enable restoration capability in the event of a disaster<br>3.9 Configure update services to provide automatic updates for operating system and applications |
| 4. Monitor and test the server                     | 4.1 Test server for benchmarking against client specification and requirements according to test plan, and record outcomes<br>4.2 Analyse the error report and make changes as required<br>4.3 Use troubleshooting tools and techniques to diagnose and correct server problems<br>4.4 Test required changes or additions<br>4.5 Validate changes or additions against specifications                                                                                                                                                                                                                                                                                                                        |

| ELEMENT                                         | PERFORMANCE CRITERIA                                                                                                                                                                                                                            |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5. Complete documentation and clean up worksite | 5.1 Make and document server configuration and operational changes<br>5.2 Complete client report and notification of server status<br>5.3 Clean up and restore worksite to client's satisfaction<br>5.4 Secure sign-off from appropriate person |

## Foundation Skills

*This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.*

| Skill                      | Performance Criteria                       | Description                                                                                                                                                                                                                                                                                                                     |
|----------------------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reading                    | 1.3, 3.3, 4.2                              | <ul style="list-style-type: none"> <li>Recognises and interprets technical documentation to determine job requirements</li> </ul>                                                                                                                                                                                               |
| Writing                    | 4.1, 4.2, 5.1, 5.2                         | <ul style="list-style-type: none"> <li>Uses clear, specific and industry related terminology to produce and update workplace documentation</li> </ul>                                                                                                                                                                           |
| Oral Communication         | 1.2, 1.7                                   | <ul style="list-style-type: none"> <li>Articulates information clearly using specific and relevant language suitable to audience to convey information</li> <li>Uses listening and questioning techniques to confirm understanding</li> </ul>                                                                                   |
| Numeracy                   | 1.5, 4.2                                   | <ul style="list-style-type: none"> <li>Uses mathematical formulae to take test measurements, interpret results and evaluate performance and interoperability of the network</li> </ul>                                                                                                                                          |
| Navigate the world of work | 1.1, 5.3                                   | <ul style="list-style-type: none"> <li>Takes personal responsibility for adherence to legal/regulatory responsibilities relevant to own work context</li> <li>Understands nature and purpose of own role and associated responsibilities, and how it contributes to the work of others in the immediate work context</li> </ul> |
| Interact with others       | 5.4                                        | <ul style="list-style-type: none"> <li>Selects the appropriate form, channel and mode of communication for a specific purpose relevant to own role</li> </ul>                                                                                                                                                                   |
| Get the work done          | 1.3, 1.4, 1.6, 1.7, 2.1-2.7, 3.1-3.9, 4.1, | <ul style="list-style-type: none"> <li>Determines job priorities, resources and equipment, and works logically and systematically to undertake clearly defined and</li> </ul>                                                                                                                                                   |

|  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 4.3, 4.4, 4.5, 5.1 | <p>familiar tasks</p> <ul style="list-style-type: none"><li>• Implements actions according to a predetermined plan, making slight adjustments if necessary</li><li>• Takes responsibility for routine decision making by selecting from a range of predetermined options in routine situations, identifying and taking some situational factors into account</li><li>• Initiates standard procedures when adapting configuration procedures, depending on differing operational contingencies, risk situations and environments</li><li>• Understands the purposes, specific functions and key features of common digital systems and tools, and operates them effectively to complete routine tasks, adapting some functions to improve personal efficiency</li></ul> |
|--|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Unit Mapping Information

| Code and title<br>current version     | Code and title<br>previous version     | Comments                                        | Equivalence<br>status |
|---------------------------------------|----------------------------------------|-------------------------------------------------|-----------------------|
| ICTNWK401 Install and manage a server | ICANWK401A Install and manage a server | Updated to meet Standards for Training Packages | Equivalent unit       |

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

## Assessment Requirements for ICTNWK401 Install and manage a server

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### Performance Evidence

Evidence of the ability to:

- install and configure server
- configure network connectivity
- manage the server operating system, including user accounts, file, network directory and print services
- perform backup and recovery
- update operating system and software
- monitor and test server
- troubleshoot server and network failures.

Candidates should demonstrate competency in at least TWO different network operating systems.

### Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- identify and describe current network hardware and software systems and their requirements, including:
  - network operating systems (NOS)
  - server applications including compatibility issues and resolution procedures
  - desktop applications and operating systems
- recognise and describe basic server installation and maintenance processes and procedures, including:
  - documentation skills for networks
  - error logging and reporting
  - high availability options for file systems, including redundant array of independent disks (RAID) and replication
  - network directory services and network service configuration

- options for performance tuning
- user authentication
- specify and describe processes and procedures required to support and manage a server, including:
  - best practice for implementing backup and recovery procedures
  - boot process
  - operating system help and support utilities
  - operating system installation methods, including installation from CD or DVD, universal serial bus (USB) boot disk, network and script (automated install)
  - printer management
  - process and task management, including process termination
  - task scheduling utilities
  - troubleshooting tools and techniques, including network diagnostic utilities
  - user account and password management.

## Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the network industry, and include access to:

- a site where server installation may be conducted
- relevant server specifications including:
  - cabling
  - local area networked (LAN) computers
  - server diagnostic software
  - switch
  - client requirements
- wide area network (WAN) service point of presence
- workstations
- relevant regulatory documentation that affects installation activities.

Assessors must satisfy NVR/AQTF assessor requirements.

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