Australian Government

Department of Education, Employment and Workplace Relations

ICANWK408A Configure a desktop environment

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

ICANWK408A Configure a desktop environment

Modification History

Release	Comments
Release 1	This Unit first released with *ICA11 Information and Communications Technology Training Package version 1.0*

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to install, configure and support a desktop or workstation operating system in a networked environment.

Application of the Unit

This unit applies to those employed in technical information technology (IT) support roles who are required to install and support desktop operating systems in a networked environment.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	*Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.*

     Innovation and Business Skills Australia

Elements and Performance Criteria

1. Prepare to install a desktop operating system	1.1 Prepare for work according to site-specific safety requirements and enterprise OHS processes and procedures
	1.2 Obtain *desktop applications* and features from *appropriate person*
	1.3 Review required installation options and *file systems*
	1.4 Determine and apply knowledge of licensing, hardware and system requirements
	1.5 Analyse data migration requirements
	1.6 *Back up local data* in preparation for installation
	1.7 Arrange access to site and advise *client* of deployment and potential down times
2. Install desktop operating system	2.1 Install or upgrade *desktop operating system* using appropriate *installation or update method*
	2.2 Install desktop applications according to identified requirements
	2.3 Configure *network settings* to connect workstation to network
	2.4 Patch the operating system and applications to ensure maximum security and reliability
	2.5 Restore local data to new workstation
3. Configure desktop environment	3.1 Configure *hardware devices*
	3.2 Administer *user environment*
	3.3 Create file and directory structure using appropriate administration and system tools
	3.4 Configure access to *external data*
	3.5 Configure desktop applications according to business requirements
4. Operate command line interface	4.1 Open a command line interface
	4.2 Run commands and scripts from the command line interface
	4.3 Manipulate files using the command line
5. Configure desktop security	5.1 Modify default user settings to ensure that they match the organisational security policies
	5.2 Modify file and directory ownership and permissions

	to ensure data security requirements are met
	5.3 Ensure password security
	5.4 Check that the appropriate legal notices are displayed at logon
	5.5 Implement *security options* for *network protocols*
	5.6 Configure *security settings* for desktop applications according to business requirements
6. Monitor and test the desktop	6.1 Test desktop environment to ensure that client, functionality and *performance* requirements have been met
	6.2 Analyse and respond to diagnostic information
	6.3 Use troubleshooting tools and techniques to diagnose and correct *desktop problems*
	6.4 Document the desktop environment, according to organisational policy

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to liaise with internal and external personnel regarding desktop requirements and issues
- literacy skills to interpret technical documentation
- numeracy skills to:
  - take test measurements
  - interpret results
  - evaluate performance of the desktop workstation
- problem-solving skills to address desktop problems reported by the client
- research skills to interrogate vendor databases and websites to resolve desktop problems
- technical skills to select and use desktop operating system and network diagnostics to test desktop functionality and performance.

Required knowledge

- features of:
  - current desktop applications, compatibility issues and resolution procedures
  - current desktop operating systems
- broad knowledge of:
  - command line interface and scripts
  - controlling the boot process
  - error logging and reporting
  - file naming conventions related to selected operating system
  - guidelines for selecting a secure password
  - network protocols and transmission control protocol or internet protocol (TCP/IP) network connectivity
  - operating systems and their functions, including file system, memory management and process scheduling
  - printer driver and queue management
  - process or task management, including process termination
  - tools available for remote assistance and administration
  - troubleshooting tools and techniques, including network diagnostic utilities
  - user account, group and password administration
- detailed knowledge of:
  - file system navigation and manipulation utilities, including edit, copy, move and search
  - operating system help and support utilities.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: • install and configure a desktop operating system • attach the desktop to the network • configure the desktop operating system, including user accounts, file and print services and security • perform backup and recovery • update operating system and software • monitor and troubleshoot the desktop environment. Candidates should demonstrate competency in at least two different desktop operating systems.

Context of and specific resources for assessment	Assessment must ensure access to:
	
	• site where server installation may be conducted
	• relevant server specifications:
	   • cabling
	   • local area network (LAN)
	   • diagnostic software
	   • switch
	   • client requirements
	   • WAN service point of presence
	   • desktop workstations
	• relevant regulatory documentation that affects installation activities
	• appropriate learning and assessment support when required.
	
	Where applicable, physical resources should include equipment modified for people with special needs.

Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct observation of the candidate installing or updating a desktop operating system • direct observation of the candidate configuring a desktop operating system

Innovation and Business Skills Australia

	• verbal or written questioning of the required skills and knowledge.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.
	Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.
	Indigenous people and other people from a non-English speaking background may need additional support.
	In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Desktop applications may include:	• CAD software • database • email client • internet browser • line-of-business applications • printer sharing • publishing and presentation software • remote-access clients • spreadsheet • technical software • word processor.
Appropriate person may include:	• authorised business representative • client • IT support manager • network administrator • network manager • small office home office (SOHO) customer • small or medium enterprise (SME) customer • supervisor.
File systems may include:	• EXT • FAT • HFS+ • NFS • new technology file system (NTFS).
Back up may be performed using:	• operating system backup utilities • third-party software • network copy • zip utilities.
Local data may include:	• files and directories • user home directories • user profiles.
Client may include:	• external organisations • individuals

Innovation and Business Skills Australia

	• internal departments • internal employees.
Desktop operating system may include:	• Linux • Mac • Windows.
Installation or update method may include:	• CD, DVD • installation as a virtual machine • Pup • Red Hat Network • universal serial bus (USB) boot disk • Windows Server Update Services • Yum.
Network settings may include:	• default gateway • DNS server • firewall • IP address and subnet mask (static or dynamic).
Hardware devices may include:	• device drivers • disk drives • keyboard • modem • monitor • mouse • network interfaces • printer • scanner • USB drive.
User environment may include:	• users and groups • login defaults and options • login scripts • graphical environment • environmental variables and prompts • authentication and authorisation • user profiles • unmask • prompt.
External data may include:	• applications • databases • file transfer protocol (FTP) sites • network file systems or shares • SharePoint sites • USB drives

	• websites.
Security options and **security settings** may include:	• anti-spam software • antivirus software • internet-browser privacy security settings • operating system firewall utilities • proxy settings • SE Linux • Windows Group Policy.
Network protocols may include:	• dynamic host configuration protocol (DHCP) • dynamic name system (DNS) • file transfer protocol (FTP) • hypertext transfer protocol (HTTP and HTTPS) • internet message access protocol (IMAP) • network file system (NFS) • network time protocol (NTP) • post office protocol (POP) • server messages block (SMB) • simple mail transfer protocol (SMTP) • simple network management protocol (SNMP) • TCP/IP.
Performance may be affected by:	• desktop environment • driver versions • hard drive cache • mobile computing performance issues • network • page files, swap files and virtual memory • power options • processor scheduling • services.
Desktop problems may include:	• disk and storage problems, such as file system full, file system fragmentation, and disk failure • hardware device problems, such as printer configuration and display settings • network connectivity problems, such as cable unplugged or dynamic IP address not received • workstation boot problems.

Unit Sector(s)

Networking

Innovation and Business Skills Australia