



Australian Government

Department of Education, Employment and Workplace Relations

ICAI4188B Install and maintain a server

Release: 1

ICAI4188B Install and maintain a server

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit defines the competency required to install and maintain a server and monitor its operation.
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Application of the Unit

Application of the unit	
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
	ICAI3020B	Install and optimise operating system software
	ICAI3101B	Install and manage network protocols
	ICAS3120C	Configure and administer a network operating system

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop installation plan	1.1. Assess and document the <i>deployment environment</i> with reference to system capacity, interdependencies and interoperability 1.2. Identify what installation options are required 1.3. Determine, as required, the scale of installation and use of pilot (test) installations 1.4. Identify data migration <i>requirements</i> 1.5. Identify and apply back-up and recovery <i>requirements</i> with reference to organisational policy 1.6. Identify education and training <i>requirements</i> for support staff and in line with <i>client, requirements</i> and relevant enterprise policies 1.7. Identify resource <i>requirements</i> 1.8. Create and document a deployment plan
2. Install server	2.1. Back up and restore local data in preparation for installation 2.2. Advise the <i>user</i> group of deployment and potential down times 2.3. Install and configure <i>servers</i> as required by functional specifications 2.4. Reconnect and reconfigure relevant connectivity devices 2.5. Install and undertake <i>configuration activities</i> relevant <i>operating system</i> and <i>application</i> upgrades 2.6. Implement relevant tests and record, analyse and report results 2.7. Repeat the deployment of the pilot installation 2.8. Create <i>documentation</i> for <i>users</i>
3. Monitor server operation	3.1. Identify and determine required service levels and performance benchmarks and monitor the <i>server</i> operation 3.2. Identify and use relevant management tools with reference to <i>server</i> functionality and enterprise policies 3.3. Develop and implement a program of selective independent audits and tests 3.4. Record, analyse and report audit and test programs and their results 3.5. Make and document <i>configuration</i> and operational

ELEMENT	PERFORMANCE CRITERIA
	changes

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- Use of relevant server management tools
- Project management skills
- Ability to create technical and user documentation (e.g. for server maintenance and configuration settings)
- Ability to understand user applications and relate user needs when configuring a server
- Ability to analyse server and network operational issues
- Ability to outline server maintenance procedures (e.g. back-up, disk housekeeping, defragmentation)
- Ability to follow specified server maintenance procedures
- Ability to troubleshoot server and network failures

Required knowledge

- Features of current network operating systems (NOS), including Linux OS/2, Novell Netware, Unix Ware, MS Windows NT, MS Windows server 2000/NET
- Features of current server applications, including RedHat Enterprise Server, Linux Terminal Services, Lotus Notes/Novell GroupWise for messaging; Apache/MS IIS for web services; Novel Border Manager/MS Proxy Server (Microsoft Internet Security and Acceleration (ISA) Server) for network services; Oracle/MS SQL Server/IBM DB2 for databases and data warehousing; Novell Directory Services/iPlanet for directory services; HP Openview/Intel LAN desk server manager/CA UniCenter for management; SAP/PeopleSoft/Baan for line of business applications; and MS Terminal Server/Citrix MetaFrame for terminal services
- Desktop applications and operating systems as required
- Knowledge of compatibility issues and resolution procedures
- Knowledge of system back-up procedures
- Enterprise communication/training systems in relation to training and advising staff involved in the deployment

Evidence Guide

EVIDENCE GUIDE	
<p>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.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Assessment must confirm the ability to install and monitor server performance and maintain server operation with minimum down time and disruption to the business. <p>To demonstrate competency in this unit the person will require access to:</p> <ul style="list-style-type: none"> • Server on a network • Policies related to back-up and recovery • Server or network operating system
Context of and specific resources for assessment	<p>Servers are generally computers or devices on a network that manage network resources. Servers are used in a variety of roles, for example, a file server is a computer and storage device dedicated to storing files. Any user on such a network can store files on the server. A print server is a computer that manages one or more printers, whilst a network server is a computer that manages network traffic. Web servers generally store all files related to a website and perform all work necessary for hosting that website.</p> <p>Modern networks are predominantly of the client-server type. This operating mode offers more efficient operation, easier (centralised) configuration and maintenance than other network models. Due to the large number of installations of this type and the pivotal role of servers in this type of system, the skills necessary to configure and maintain a server are critically important.</p> <p>The breadth, depth and complexity of knowledge and skills in this competency would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine.</p>

EVIDENCE GUIDE	
	<p>Leadership and guidance would be involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.</p> <p>Assessment must ensure:</p> <ul style="list-style-type: none"> • Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills would be characteristic. • Applications may involve responsibility for, and limited organisation of, others.
Method of assessment	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1.</p> <ul style="list-style-type: none"> • Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. • Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or

EVIDENCE GUIDE	
	scenario.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p> <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> • Demonstrate understanding of a broad knowledge base incorporating some theoretical concepts • Apply solutions to a defined range of unpredictable problems • Identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas • Identify, analyse and evaluate information from a variety of sources • Take responsibility for own outputs in relation to specified quality standards • Take limited responsibility for the quantity and quality of the output of others • Maintain knowledge of industry products and services

Range Statement

RANGE STATEMENT	
<p>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.</p>	
<p><i>Deployment environment</i> may include but is not limited to:</p>	<ul style="list-style-type: none"> • legacy systems • desktop and server specification • time synchronisation services • TCP/IP architecture • the physical and logical network • training requirements

RANGE STATEMENT	
Requirements may be in reference to:	<ul style="list-style-type: none"> • business • system • application • network • people in the organisation
Client may include but is not limited to:	<ul style="list-style-type: none"> • internal departments • external organisations • clubs • individual people • internal employees
User may include:	<ul style="list-style-type: none"> • a person within a department • a department within the organisation • a third party
Servers may include:	<ul style="list-style-type: none"> • Application/web servers • BEA Weblogic servers • IBM VisualAge and WebSphere • Novell NDS servers • Email servers • File and print servers • FTP servers • Firewall servers • Proxy/cache servers
Configuration - server configuration may include but is not limited to:	<ul style="list-style-type: none"> • log file rotation • entry cache • database cache • consumers and suppliers • large objects • search and write performance • LDAP clients • cache sizes • port numbers • directory configuration • root DN • access control needs • hostnames • IP addresses • DNS • server domains • network connectivity issues

RANGE STATEMENT	
	<ul style="list-style-type: none"> • NetBIOS naming
<i>Operating system</i> may include but is not limited to:	<ul style="list-style-type: none"> • Linux 7.0 or above • Windows 2000 or above • Apple OS X or above
<i>Application</i>	<ul style="list-style-type: none"> • May include but are not limited to commercial software applications; organisation-specific software; word processing, spreadsheet, database, graphic and communication packages; and presentation functionalities. • May include presentation applications contained in: Microsoft Office, Lotus Suite, Claris Works, Star Office or other similar applications.

Unit Sector(s)

Unit sector	Implement
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Co-requisite units

Co-requisite units	

Competency field

Competency field	
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