



Australian Government

ICTPRG412 Configure and maintain databases

Release: 1

ICTPRG412 Configure and maintain databases

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 a database, manage data, data access and data security, and improve database performance.

It applies to individuals responsible for the maintenance and coordination of database operations. They usually work in an organisation, providing daily services as database administrators, database developers, database coordinators, or application developers.

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

Unit Sector

Programming and software development

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. Determine the requirements of database administration	1.1 Identify the components of a database instance 1.2 Define and use tools to administer the database
2. Install and configure the database system	2.1 Verify the database software installation prerequisites 2.2 Install the database software and related services 2.3 Configure database instance, components and services 2.4 Perform data management tasks
3. Manage database security and integrity	3.1 Create and administer users 3.2 Create and manage the permissions to perform database

ELEMENT	PERFORMANCE CRITERIA
	operations 3.3 Create and manage roles
4. Optimise and back up database	4.1 Configure the database for backup and recovery operations 4.2 Create and manage database backups 4.3 Restore and perform database recovery 4.4 Tune and perform database optimisation
5. Document the database	5.1 Document the maintenance and tuning work performed on the database 5.2 Document the users added to system

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	1.1, 1.2	Applies appropriate strategies to construct meaning from technical specifications, when identifying the database components, and defining tools
Writing	5.1, 5.2	Displays a knowledge of structure and layout, employing a broad vocabulary, grammatical structure and the conventions appropriate to text
Interact with others	2.1	Seeks clarification when meanings and intended actions are open to interpretation, when verifying prerequisites
Get the work done	1.1, 1.2, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4	- Uses systematic analytical processes, gathering relevant information and identifying, and evaluating, options against the agreed criteria - Uses analytical processes to decide on a course of action, establishing the criteria for deciding between options - Understands the key principles and concepts underpinning the design, and operation, of digital systems and tools, and applies these when troubleshooting database technology - Utilises a broad range of features within database applications and tools, to improve personal productivity, optimising software functions for specific purposes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTPRG412 Configure and maintain databases	ICAPRG412A Configure and maintain databases	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 ICTPRG412 Configure and maintain databases

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Performance Evidence

Evidence of the ability to:

- install and configure database software, according to requirements
- manage database files, integrity, users and security
- create backup and restore databases
- monitor database performance
- document the database work, and database users added.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

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

- outline the principles of database design
- summarise the features of desktop operating systems
- explain the principles of relational databases
- describe the functions of computer hardware and components
- explain computer networking and components
- explain uses of structured query language (SQL).

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 programming and software development industry, and include access to:

- the database-management system software
- specific requirements, including client and functionality requirements

- naming standard.

Assessors must satisfy NVR/AQTF assessor requirements.

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