



Australian Government

ICTPRG438 Configure and maintain databases

Release: 1

ICTPRG438 Configure and maintain databases

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 6.0.

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 those who are 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 requirements and install database system	1.1 Identify required database and components and user needs 1.2 Define and use database administrative tools according to database requirements 1.3 Verify database software installation prerequisites 1.4 Install database software and related services according to organisational procedures 1.5 Configure database instance, components and services according to user needs
2. Manage database security and integrity	2.1 Create and administer users according to task requirements 2.2 Create and manage permissions and roles

	2.3 Configure database including backup and recovery operations 2.4 Create and manage database backups 2.5 Restore and perform database recovery 2.6 Tune and perform database optimisation
3. Document and review database	3.1 Document maintenance and tuning work performed on database 3.2 Document users added to system 3.3 Review database and confirm required users have access

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Reading	Applies strategies and constructs meaning from technical specifications when identifying database components and defining tools
Writing	Develops documentation detailing work performed and added users using appropriate structure, layout and technical programming language
Problem solving	- Uses systematic processes, gathering information and identifying and evaluating options against agreed criteria - Decides on a course of action using analytical processes
Self-management	Seeks clarification when meanings and intended actions are open to interpretation when verifying prerequisites
Technology	- Identifies key principles and concepts underpinning design and operation of digital systems and tools and applies these when troubleshooting database technology - Improve personal productivity and optimises software functions using a broad range of features within database applications

Unit Mapping Information

Supersedes and is equivalent to ICTPRG412 Configure and maintain databases.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for ICTPRG438 Configure and maintain databases

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- configure and maintain at least one database system, according to requirements.

In the course of the above, the candidate must:

- create backup and restore database above
- document database work and database users added.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- database design principles
- relational database principles
- hardware functions and components that may be used to **configure and maintain databases**
- connection methods to database management systems
- documentation techniques that may be used to document database work
- uses of structured query language (SQL).

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

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

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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