



Australian Government

ICTDBS412 Build a database

Release: 1

ICTDBS412 Build a database

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 build, implement, test and evaluate a database, using an established design.

It applies individuals employed as database administrators and designers who are required to build databases for information storage and retrieval requirements.

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

Unit Sector

Database

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. Confirm the database design	1.1 Review the database design documentation, including data structures, queries, reports and user interface 1.2 Compare the database access and security feature design with the organisational security plan 1.3 Document inconsistencies in the database and security design
2. Create a prototype	2.1 Develop a prototype according to the database design 2.2 Populate database tables with suitable data, including current business data 2.3 Write conversion programs to import data from existing systems

ELEMENT	PERFORMANCE CRITERIA
	2.4 Develop test data to assess database features 2.5 Assess functionality of the prototype with the client, including identifying errors in the program code, and modifying screens, and reports 2.6 Incorporate feedback from the client into the prototype 2.7 Obtain client sign-off for the prototype
3. Test the database	3.1 Develop an implementation plan for the database 3.2 Install database management system software on the network 3.3 Populate the database tables with business data 3.4 Implement security and access controls 3.5 Test database output and security controls, and record results
4. Evaluate the database	4.1 Review the database with the client for final approval 4.2 Complete database documentation 4.3 Identify and document user training requirements 4.4 Seek and secure client acceptance of the database

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	1.1-1.3, 2.5, 2.6, 4.1, 4.3	Analyses and interprets textual information in order to establish client system requirements and establish design inconsistencies
Writing	1.3, 2.3, 2.7, 3.1, 3.5, 4.2	- Uses appropriate technical terminology in recording test results and discrepancies - Produces reports and documentation that are cohesive and well-structured, in order to convey detailed and accurate information, and instructions
Oral Communication	1.1, 2.5-2.7, 4.1, 4.3, 4.4	Uses active listening, questioning and summarising skills to establish client requirements, training needs and when seeking product or stage approval

Interact with others	4.4	Recognises and applies the protocols governing what to communicate, with whom, and how
Get the work done	All	- Sequences and schedules complex activities, monitors implementation and manages relevant communication - Uses a formal decision-making process, setting or clarifying goals, gathering information, and identifying and evaluating several choices, against a limited set of criteria - Uses analytical processes to decide on a course of action, establishing criteria for deciding between different options - Understands the key principles and concepts underpinning the design, and operation of digital systems and tools

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTDBS412 Build a database	ICADBS412A Build a database	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 ICTDBS412 Build a database

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Performance Evidence

Evidence of the ability to:

- identify client data management and security requirements
- produce a prototype data base
- populate and perform tests
- discuss results with client for approval
- implement the data base with the client.

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 data base design including :
 - database management system (DBMS) fundamentals particularly during the design phase
- describe the functions and features of a database
- describe logical data modelling
- outline object-model design concepts related to:
 - developing data structures
 - development of a prototype
 - queries
 - screens
 - reports
- explain the physical design concepts in relation to a prototype
- recognise and describe run-time facilities related to implementing a live database and operation of a prototype
- describe and apply structured query programming 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 database field of work, and include access to:

- industry software packages
- business requirements and strategy
- database design documentation
- database software
- database programming language.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

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