



Australian Government

Department of Education, Employment and Workplace Relations

ICADBS403A Create basic databases

Release: 1

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Modification History

Release	Comments
Release 1	This Unit first released with <i>ICA11 Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to design a database to meet a specification.

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.

Application of the Unit

This unit applies to database or web designers who need to create a simple database to store information for an online application using a simple entity relational database.

This unit should be used in conjunction with other substantiating units, such as ICAPRG425A Use structured query language for the deployment of a database.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>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.</i>

Elements and Performance Criteria

1. Analyse requirements for the database	1.1 Determine the information that the database is required to hold 1.2 Develop a written requirement report for the functionality of the database 1.3 Complete documentation and submit to appropriate person for approval
2. Use data modelling to design the database to suit requirements	2.1 Design an entity-relationship (ER) diagram to model the relationships between the entities and attributes the database will hold 2.2 Develop the primary and foreign keys to link the entities 2.3 Develop a data dictionary 2.4 Complete documentation and submit to appropriate person for approval
3. Create a database on a web or database server	3.1 Use the appropriate language on a web or database server to create one or more databases 3.2 Use the appropriate language on a web or database server to create tables 3.3 Populate the database fields
4. Test database and debug	4.1 Test the database on the web or database server 4.2 Ensure that the information represented matches the requirements

Required Skills and Knowledge

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

Required skills

- analytical skills to:
 - analyse the requirements for the project
 - develop and design a database algorithm to match client requirements
- communication skills to:
 - liaise with the client
 - understand client requirements
- initiative and enterprise skills to:
 - create a database on a hosted service
 - research hosting requirements of the database
- literacy skills to:
 - create the necessary documentation to document code
 - write end user documentation
- planning and organisational skills to:
 - deliver a product that responds to client requirements
 - deliver the product by the due date
- problem-solving skills to:
 - deliver a robust solution to a specific database requirement
 - translate an ER diagram to a database.

Required knowledge

- basic knowledge of open platforms, including browsers and databases
- creation of entities, attributes and populating fields using both software solutions and script based input
- data-modelling techniques to design a database
- database design, modelling and implementation
- internet operation related to web servers and clients
- naming conventions
- security restrictions on servers, incorporating some theoretical concepts
- best practice communication and accessibility for audiences with special needs.

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: - research client requirements for a database solution - design a database that meets client requirements - create a database on a web hosting service to meet client requirements by a due date.
Context of and specific resources for assessment	Assessment must ensure access to: - database - database-management system - internet - software for creating ER diagrams - software-development environment - server - web browsers - appropriate learning and assessment support when required - modified equipment 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: - verbal or written questioning to identify knowledge of database design and implementation - direct observation of database design and creation - review of a directed project with specified client requirements.
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.
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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.

Documentation may include:	• audit trails • International Organization for Standardization (ISO), International Electrotechnical Commission (IEC) and Australian Standards (AS) standards • naming standards • project-management templates • report-writing protocols • version control.
Appropriate person may include:	• authorised business representative • client • supervisor.
Language may include:	• Access • Informix • Microsoft Structured Query Language (MS SQL) • MySQL • Oracle • Postgre Structured Query Language (Postgre SQL) • Sybase.

Unit Sector(s)

Database