



Australian Government

ICTSAD501 Model data objects

Release: 1

ICTSAD501 Model data objects

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 understand business operations, identify entities and data, diagrammatically represent their relationships, and prepare a data model.

It applies individuals who have a broad range of analytical, technical and communication skills and who work within broad but established parameters.

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

Unit Sector

Systems analysis and design

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. Identify entities and relationships	1.1 Analyse business data to understand operations 1.2 Identify boundaries of the system 1.3 Identify entities, attributes, data types and relationships of data 1.4 Review business rules to determine impact 1.5 Document relationships in an entity relationship diagram
2. Develop normalisation	2.1 Identify suitable business data 2.2 Undertake normalisation of business data and document results 2.3 Compare normalisation results with entity relationship diagram

ELEMENT	PERFORMANCE CRITERIA
	2.4 Reconcile differences between data
3. Validate model	3.1 Validate data model with client 3.2 Resolve issues or recommendations 3.3 Document completed data model 3.4 Submit to client for final approval

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, 1.4, 2.3, 2.4	Critically analyses complex documentation from a variety of sources and consolidates information relating to specific criteria to determine requirements
Writing	1.5, 2.2, 2.4, 3.3, 3.4	- Prepares and produces diagrammatic models and associated documents that convey complex relationships between data - Documents outcomes and changes to discussions, using industry relevant terminology and recognised symbols
Oral Communication	3.1-3.4	Participates in verbal exchanges by listening and questioning clients to elicit information, resolve issues, and obtain final product and work outcome approval
Interact with others	3.1, 3.2, 3.4	- Selects, implements and seeks to improve protocols governing communications to clients and co-workers in a range of work contexts - Elicits feedback and provides feedback to others
Get the work done	1.1-1.4, 2.1, 3.2, 3.3	- Accepts responsibility for planning and sequencing complex tasks and workload, negotiating key aspects with others and taking into account capabilities, efficiencies and effectiveness - Applies systematic and analytical decision making processes for complex and non-routine situations - Uses and investigates new digital technologies and applications to manage and manipulate data and communicate effectively with others, in a secure and stable digital environment

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTSAD501 Model data objects	ICASAD501A Model data objects	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 ICTSAD501 Model data objects

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Performance Evidence

Evidence of the ability to:

- document client business requirements
- construct an entity relationship diagram
- construct and document a data model
- normalise the model
- validate the model.

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:

- fully describe:
 - database identifiers and their impact on database usability
 - normalisation rules and processes
 - type hierarchies, including sub-types, super-types and root-types related to development of structured data types
 - validation procedures and processes
- describe the function and features of:
 - an approach to data modelling, such as the entity-relationship model
 - keys, e.g. unique keys, composite keys, primary keys and primary index
 - time stamps related to the use of keys
 - user defined types, structured types, reference types and user defined functions
 - data types and their application
- summarise the particular business domain.

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 systems analysis and design field of work, and include access to:

- client's business requirements
- special purpose tools, equipment and materials
- industry software packages
- computer aided software engineering (CASE) tools
- entity relationship diagrams.

Assessors must satisfy NVR/AQTF assessor requirements.

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