



Australian Government

ICTDBS503 Create a data warehouse

Release: 1

ICTDBS503 Create a data warehouse

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 design, develop and implement a data warehouse within an organisation.

It applies to individuals who are senior database staff required to provide data warehouse functionality for their organisation.

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. Identify the required data and sources	1.1 Identify the required organisational data, according to the enterprise's knowledge management strategy 1.2 Identify the subject areas, according to the business processes and the required enterprise data 1.3 Explore the operational data, define the warehouse sources, and record the outcomes 1.4 Develop the warehouse source specifications, according to the existing data tables and files
2. Determine warehouse operational steps and processes	2.1 Develop the warehouse targets, according to the business processes and the required enterprise data 2.2 Identify the warehouse agents, according to the system's

ELEMENT	PERFORMANCE CRITERIA
	configuration 2.3 Identify and develop, warehouse steps and processes
3. Design and develop warehouse features	3.1 Design and develop the warehouse user interface, according to the principles of user interface design 3.2 Develop and implement the warehouse security strategy, according to the enterprise's security plan 3.3 Identify dimension tables and fact tables, according to the required enterprise data 3.4 Develop the warehouse information catalogue, according to the enterprise's knowledge management strategy
4. Test and implement the data warehouse	4.1 Test data the warehouse against the business requirements, to ensure that iterations meet the business objectives 4.2 Recommend changes to business processes, to ensure compatibility with the data warehouse and the knowledge management strategy 4.3 Implement the data warehouse 4.4 Establish an ongoing maintenance schedule to keep the system efficient 4.5 Benchmark and document the performance level of the data warehouse
5. Finalise work processes	5.1 Arrange for users to have ongoing training in the data warehouse 5.2 Validate the test results 5.3 Obtain sign-off for the data warehouse

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, 2.2, 2.3, 3.3, 4.5, 5.2	Critically analyses documentation from a variety of sources and records, and consolidates, information to determine requirements

Writing	1.3, 2.1, 2.3, 3.1, 3.2, 3.4, 4.2, 4.4, 4.5, 2.2, 5.3	Collates and compiles data and text, using clear and detailed language, in order to convey specific information, requirements and recommendations
Oral Communication	1.1-1.3, 2.1, 2.3, 4.2, 4.3, 5.1-5.3	Uses effective listening, questioning and summarising skills, to articulate requirements and convey information clearly
Numeracy	4.5	Perform mathematical calculations to analyse the cost benefit of the data warehouse project
Navigate the world of work	3.2, 3.4, 4.1, 4.2	- Recognises and follows, explicit and implicit protocols, and meets the expectations associated with own role when obtaining sign-off for the data warehouse - Modifies or develops organisational policies and procedures, to comply with legislative requirements and organisational goals
Get the work done	All	- Develops plans to manage relatively complex, non-routine tasks, with an awareness of how they may contribute to the longer-term operational and strategic goals - Makes a range of critical and non-critical decisions in relatively complex situations, taking a range of constraints into account - Uses systematic, analytical processes in complex, non-routine situations, setting goals, gathering relevant information, and identifying and evaluating options, against the agreed criteria - Uses and investigates new digital technologies and applications to manage and manipulate data, and to 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
ICTDBS503 Create a data warehouse	ICADBS503B Create a data warehouse	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 ICTDBS503 Create a data warehouse

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Performance Evidence

Evidence of the ability to:

- prepare the specifications for a data warehouse, from a range of organisational information
- design a data warehouse system that reflects the current, and future, business specifications, and also the business's knowledge management strategy
- test the data warehouse system
- implement the data warehouse design.

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:

- explain the functions and features of:
 - data warehousing and data mining
 - dimension tables and fact tables
 - various steps and processes, including transformer steps, program steps, structured query language (SQL) steps, and user-defined program steps
 - subject areas, warehouse sources and warehouse targets
 - warehouse agents and agent sites
- outline the business operating systems related to the data sources
- describe the decision support systems related to the knowledge management strategies
- define the parameters for a security plan
- outline the system's configuration parameters
- describe the key features of "Big Data" including:
 - data access speeds and processing
 - the information handled by large corporations

- distribution, via the cloud, across the database servers.

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:

- equipment and materials
- industry software packages
- the business requirements
- computers configurable as information servers
- the enterprise's knowledge management strategy
- internet connectivity tools
- the local area network (LAN), with a relational database management system (DBMS)
- proxy server software
- specialised internet security software.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

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