



Australian Government

ICTDBS601 Build a data warehouse

Release: 1

ICTDBS601 Build 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 managing a knowledge management team, or works in a senior role in such a team with line management responsibility.

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 document, including the data structures, queries, reports and user interface 1.2 Identify any possible “Big Data” applications 1.3 Compare the database access and security design, with the business security plan
2. Identify the required data and sources	2.1 Identify the required data, with reference to the enterprise’s knowledge management strategy 2.2 Identify subject areas, with reference to the business processes and the required data 2.3 Explore operational data, define the warehouse sources and record the outcomes

ELEMENT	PERFORMANCE CRITERIA
	2.4 Develop the warehouse source specifications, with reference to the existing data tables and files
3. Determine warehouse operational steps and processes	3.1 Develop the warehouse targets, with reference to the business processes and the required data 3.2 Identify the warehouse agents, according to the system's configuration 3.3 Identify and develop, warehouse steps and processes
4. Design and develop the warehouse features	4.1 Design and develop the warehouse user interface, with reference to the principles of user interface design 4.2 Develop and implement the warehouse security strategy, according to the enterprise's security plan 4.3 Identify dimension tables and fact tables, with reference to the required data 4.4 Cost the technology requirements for the implementation of the warehouse security strategy, and include them in e-business budgeting 4.5 Develop a warehouse information catalogue, with reference to the enterprise's knowledge management strategy
5. Test and implement the data warehouse	5.1 Test the data warehouse against the business requirements, to ensure that iterations meet the business objectives 5.2 Recommend changes to business processes, to ensure compatibility with the data warehouse and the knowledge management strategy 5.3 Implement the data warehouse 5.4 Establish an ongoing maintenance schedule in order to keep the system efficient 5.5 Benchmark and document, the performance level of the data warehouse
6. Finalise work processes	6.1 Arrange for users to have ongoing training in the data warehouse 6.2 Validate the results 6.3 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, 1.2, 2.1, 2.2, 2.3, 6.2	Interprets the textual information obtained from a range of sources, and determines how the content may be applied to the requirements
Writing	2.4, 3.1, 3.3, 4.2, 4.5, 5.5	Develops content in a manner that supports the purposes and format of the requirements, using the appropriate structure, layout, and specialised technical and programming language
Oral Communication	2.1, 2.2, 6.1, 6.3	Uses listening, questioning and summarising techniques to identify needs, and uses specific and clear language when engaging with others
Numeracy	4.4	Uses the relevant information in completing cost benefit analyses
Navigate the world of work	2.1, 2.2, 4.2, 4.5	- Works autonomously, making high-level decisions to achieve, and improve, organisational goals - Takes a lead role in the development of organisational goals, roles and responsibilities - Develops and implements strategies that ensure that the organisational policies, procedures and regulatory requirements are being met - Monitors and reviews the organisation's policies, procedures, and adherence to legislative requirements, in order to implement and manage change
Get the work done	All	- Develops plans to manage relatively complex, non-routine tasks, with an awareness of how they may contribute to 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 a systematic process to identify possible solutions to a difficult problem - Demonstrates a sophisticated understanding of the principles, concepts, language and practices

		associated with the digital world, and uses these to build a data warehouse
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Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTDBS601 Build a data warehouse	ICADBS601B Build 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 ICTDBS601 Build a data warehouse

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Performance Evidence

Evidence of the ability to:

- review and document the database's design, and security, for the current and future business requirements
- identify and document, the specifications for the storage of different types and sources of data
- develop a cost benefit analysis for a data warehouse
- design, develop, test, and implement a data warehouse that reflects the business's knowledge management strategy
- document the operation of the data warehouse.

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 business operating systems related to the data sources
- outline database management system (DBMS) fundamentals, in order to facilitate the extraction of data
- define "Big Data" and summarise its use and management, in the corporate sector
- identify and apply, the decision-support systems related to knowledge management strategies
- explain encryption and authentication as they apply to database security features
- outline the functions and features of dimension tables and fact tables
- explain the installation and use of proprietary software
- explain the logical database model knowledge needed to facilitate data extraction
- describe the relationship between databases and data warehouses
- define the levels of technical documentation required for newly developed data management systems.

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
- data in a DBMS
- a data-warehousing tool.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

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