



Australian Government

ICTPRG431 Apply query language in relational databases

Release: 1

ICTPRG431 Apply query language in relational databases

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 6.0.

Application

This unit describes the skills and knowledge required to retrieve and manipulate information stored in information systems using a query language.

It applies to those who are involved in a range of work environments, who are required to extract information from a relational database by creating and running queries.

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

Unit Sector

Programming and software development

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. Determine requirements of developing queries	1.1 Identify terminologies applicable to query language 1.2 Identify and build queries using required tools and environment
2. Write queries to extract required information	2.1 Sort and selectively retrieve values through query writing 2.2 Aggregate records by multiple attributes using an expression 2.3 Sort and filter aggregated records using an expression 2.4 Create queries and retrieve records from multiple tables 2.5 Retrieve records from multiple tables using different expressions and approaches 2.6 Filter records from multiple tables using an expression 2.7 Retrieve records from multiple tables using expressions,

ELEMENT	PERFORMANCE CRITERIA
	<p>set operators and set logic</p> <p>2.8 Construct and execute sub-queries</p>
3. Perform calculations and use expressions in queries	<p>3.1 Perform a calculation on numeric values and an operation on text values using an expression</p> <p>3.2 Perform an operation on date and time values using functions</p> <p>3.3 Aggregate values and obtain required output using an expression</p>
4. Create and manipulate tables	<p>4.1 Identify required columns, data types, keys, relationships, indexes and constraints</p> <p>4.2 Use required naming conventions for database elements</p> <p>4.3 Create tables that implement required elements and use check constraints</p> <p>4.4 Manipulate tables according to specific requirements</p>
5. Create and use views and stored procedures	<p>5.1 Create views according to information requirements</p> <p>5.2 Retrieve and save data using a view and transactions</p> <p>5.3 Drop a view from a database</p> <p>5.4 Retrieve, insert and modify data using created and stored procedures according to information requirements</p> <p>5.5 Create and execute stored procedures using one or more parameters</p> <p>5.6 Drop a stored procedure from database</p> <p>5.7 Create and test database triggers and perform specific required data-related functions</p>

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Numeracy	<ul style="list-style-type: none"> Makes basic calculations involving arithmetical operations Makes estimates and comparisons involving date and time data
Reading	<ul style="list-style-type: none"> Determines requirements by analysing and interpreting technical data
Writing	<ul style="list-style-type: none"> Writes and edits code and technical data in a logical manner using required syntax
Technology	<ul style="list-style-type: none"> Stores and manages data using digitally based technologies and systems

Unit Mapping Information

Supersedes and is not equivalent to ICTPRG402 Apply query language.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>