



Australian Government

ICTGAM553 Integrate database with online games

Release: 1

ICTGAM553 Integrate database with online games

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 integrate a database with an online game, where the relationship between the game server and the database server is also considered a client-server relationship on a local area network.

The unit applies to those with high-level technical and problem-solving skills working as programmers, analyst programmers and game programmers responsible for the development of code to connect a computer game to a database.

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

Unit Sector

Game 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. Install application programming interfaces	1.1 Research application programming interfaces (APIs) according to client requirements 1.2 Identify specific APIs required for game architecture and data source provider 1.3 Install nominated APIs on game development computers according to technical specifications
2. Define and use connection to data source	2.1 Define required game data source connection parameters 2.2 Store connection parameters in required external text-based configuration file 2.3 Open and close connection to game data source

ELEMENT	PERFORMANCE CRITERIA
3. Configure and use connection pooling	3.1 Configure connection pooling in the database management system 3.2 Define connection pool parameters for minimum connections, maximum connections, and idle connections 3.3 Minimise use of database resources through connection pooling 3.4 Test and verify use of connection pooling according to organisational requirements
4. Pass embedded non/structured query language (SQL) to a database	4.1 Define database connection property 4.2 Compose structured query language (SQL) or non-SQL statement to be passed to database 4.3 Test, debug and execute the statement according to organisational requirements
5. Execute stored procedures	5.1 Call stored procedure on database and use command callable statement 5.2 Define and pass parameters to stored procedure 5.3 Test, debug and execute database stored procedure according to organisational requirements
6. Modify database data	6.1 Retrieve result sets from the database into game application domain 6.2 Insert new records into database 6.3 Update existing database records 6.4 Integrate data from forward-only and read-only cursor into game application domain 6.5 Incorporate data from updateable cursor into game application domain
7. Test and debug database integration code	7.1 Test database integration code and document results according to organisational requirements 7.2 Determine errors and exceptions and document solutions 7.3 Debug all errors and exceptions 7.4 Assess data modifications, identify and fix errors 7.5 Submit all documentation to required personnel and seek and respond to feedback

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
Oral communication	Articulates requirements and responsibilities distinctively using industry standard technical language intended for audience and environment
Reading	Identifies and evaluates documents containing complex technical terminology to identify which APIs are suited to the game application domain and the game architecture
Writing	- Uses programming code, syntax and conventions to update, test and de-bug the database integration code - Documents test results and technical solutions, using applicable industry terminology
Planning and organising	Plans, organises and completes work according to project brief and schedules, sequencing tasks to achieve efficient outcome
Problem solving	- Sources and analyses reference materials related to database integration - Uses creativity and initiative in database assessment and design - Uses systematic, analytical processes in complex, routine and non-routine situations, gathering information, evaluating options, and identifying solutions to coding problems
Technology	Uses key features, of specific digital systems and software effectively to complete defined tasks

Unit Mapping Information

Supersedes and is equivalent to ICTGAM527 Integrate database with online game.

Links

Companion Volume Implementation Guide is found on VETNet -

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