



Australian Government

ICTSAS401 Perform unit test for a class

Release: 1

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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 ensure that the system is proved adequate, before handover to the client or user, by unit testing functionality and reliability of individual components.

It applies to individuals who use technical and specialised knowledge and apply a systematic approach to and fault finding and problem solving in information and communications technology (ICT) testing environments.

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

Unit Sector

Systems administration and support

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. Prepare for test	1.1 Determine test criteria 1.2 Prepare test environment 1.3 Perform static tests using appropriate test tools to verify correct behaviour of modules 1.4 Use a test harness program to exercise module behaviour 1.5 Test objects containing lower level class instances separately 1.6 Prepare data to facilitate path testing 1.7 Prepare data to facilitate member function testing

ELEMENT	PERFORMANCE CRITERIA
2. Conduct test	2.1 Ensure clean test environment 2.2 Initialise test environment 2.3 Run test harness and document results in line with test and acceptance processes 2.4 Finalise test environment
3. Analyse and classify results	3.1 Review and classify test results to highlight areas of concern 3.2 Compare test results against requirements and design specifications in line with quality benchmarks 3.3 Forward test results to appropriate person 3.4 Review feedback 3.5 Ensure compliance with documentation and reporting standards

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	1.6, 1.7, 3.1-3.4	Interprets and analyses technical specifications and numerical data from a range of sources to determine requirements and complete necessary actions
Writing	2.3, 3.2, 3.3, 3.5	Records and presents specific information logically, using appropriate formats and structures, and revises documents based on feedback and outcomes
Oral Communication	1.1, 3.3	Uses active questioning and listening techniques to confirm understanding of testing arrangements and to seek feedback
Numeracy	1.6, 1.7, 2.3, 3.1- 3.5	Uses mathematical equations to calculate and compare numerical test data for technical reports and to determine required actions
Navigate the world of work	3.4, 3.5	Takes personal responsibility for following explicit and implicit policies, procedures and standards
Interact with others	3.3	Selects and uses appropriate conventions and protocols when communicating with clients and others in a range

		of work contexts
Get the work done	1.1-1.7, 2.1-2.4, 3.1-3.3, 3.5	• Takes responsibility for planning, sequencing and prioritising tasks and own workload for efficiency and effective outcomes • Makes routine decisions and implements standard procedures for routine tasks, using formal decision making processes for more complex and non-routine situations • Uses the main features and functions of digital tools to complete work tasks

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTSAS401 Perform unit test for a class	ICASAS401A Perform unit test for a class	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 ICTSAS401 Perform unit test for a class

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Performance Evidence

Evidence of the ability to:

- prepare at least TWO test environments
- conduct unit tests, covering:
 - member function test
 - path test
 - static test
- analyse, document and report test results.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain object-oriented programming language
- compare and contrast the key features and processes of automated test tools
- discuss client business domain relating to class to be tested
- outline input and output requirements
- describe organisational requirements relating to class to be tested
- analyse system testing requirements
- analyse underlying test data.

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 administration and support field of work and include access to:

- special purpose tools, equipment, materials
- industry software packages
- suitable test plan

- specific requirements
- design documents used in analysis of the test
- suitable class to test.

Assessors must satisfy NVR/AQTF assessor requirements.

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