



Australian Government

ICTPRG551 Apply testing techniques for software development

Release: 1

ICTPRG551 Apply testing techniques for software development

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 develop test strategies and implement tests to assure reliability and quality of an application.

It applies to quality assurance analysts, test analysts, testers, system testers, software testers, test leads and software developers, responsible for activities including test plan preparation, execution and maintenance, reporting of tests and defect management in an application.

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. Plan and design test	1.1 Analyse and review software development specifications against organisational requirements 1.2 Determine and document test context, scope, standard and methodology 1.3 Determine and document test types, tools and input data requirements 1.4 Design and document test plan and test cases according to software testing specifications 1.5 Submit documentation to required personnel and seek and respond to feedback
2. Prepare test environment	2.1 Review documents and determine required preparation for test environment

ELEMENT	PERFORMANCE CRITERIA
	2.2 Determine and document test environment according to software testing requirements 2.3 Build and set up test environment according to software testing requirements
3. Implement and execute test	3.1 Build input data for testing according to software testing requirements 3.2 Create test suite according to software testing requirements 3.3 Execute test cases according to software testing requirements 3.4 Create test record and store test results according to software testing requirements
4. Manage defect and testing process	4.1 Evaluate and document test results according to software testing requirements 4.2 Track, defect and verify fixes and document outcomes

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Oral communication	Articulates information and requirements, using effective communication techniques and industry standard technical language intended for audience and environment
Reading	Reviews, and evaluates, technical and business requirements
Writing	Prepares complex workplace documentation detailing processes and outcomes using required structure, layout and technical programming language
Planning and organising	Takes responsibility for planning, sequencing and prioritising processes, and tasks, to achieve the required outcomes
Problem solving	Applies systematic and analytical problem-solving processes, to develop the required security access control strategies
Self-management	Uses systematic processes, setting goals, gathering required information and identifying and evaluating options against agreed criteria
Technology	Uses a range of digital tools and sophisticated techniques to meet the desired outcomes

Unit Mapping Information

Supersedes and is equivalent to ICTPRG529 Apply testing techniques for software development.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for ICTPRG551 Apply testing techniques for software development

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- develop a test-plan document and test cases to verify completeness, reliability and performance of an application and software on at least one occasion.

In the course of the above, the candidate must:

- document and manage test results
- perform application debugging process
- re-test application.

Knowledge Evidence

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

- industry standard programming language applicable to applying testing techniques for software development
- input and output requirements applicable to testing software development
- software development life cycle (SDLC) methodologies
- system layers including data network, hardware, operating system, database management systems, web servers, application servers, and client deployment
- processes and techniques related to small-size application development.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- business, functional, system and user requirements
- system for testing.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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