



Australian Government

ICTPRG433 Test software developments

Release: 1

ICTPRG433 Test software developments

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 prepare test plans, write test procedures and scripts according to test plans and maintain test plans and scripts.

It applies to those who are responsible for test plan preparation, execution, maintenance and reporting as well as defect management in the software development life cycle.

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. Establish testing requirements in software development	1.1 Identify testing required across software development life cycle 1.2 Discuss and confirm software development requirements with team members involved in software development project 1.3 Identify testing types and testing tools required 1.4 Discuss and define testing benefits, standards and terms 1.5 Identify organisational guidelines and frameworks related to testing
2. Prepare test plan document	2.1 Identify test and script requirements including data structures, and develop test 2.2 Analyse and identify test data using multiple test-case design techniques

	2.3 Define and design test cases 2.4 Document test plan and script according to organisational guidelines and industry standards
3. Write and execute test procedures	3.1 Choose and adopt unit test framework according to organisational procedures 3.2 Design and implement algorithm required in test procedures 3.3 Perform test executions according to organisational procedures
4. Review test results	4.1 Record and analyse test results 4.2 Discuss test results with team involved in software development life cycle 4.3 Produce and save test progress reports 4.4 Manage defects and review software, amending further defects

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	Writes and uses basic mathematical equations
Reading	Interprets technical documentation and determines requirements
Writing	Prepares workplace documentation outlining work performed according to organisational requirements
Teamwork	Collaborates with others and gather ideas and perspectives and achieves required outcome
Planning and organising	Takes responsibility for planning, sequencing and prioritising tasks and own workload
Problem solving	Uses systematic, analytical processes and gathers required information when applying testing and debugging techniques
Technology	Employs a range of sophisticated digital tools and techniques and meets desired outcomes

Unit Mapping Information

Supersedes and is equivalent to ICTPRG404 Test applications.

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 ICTPRG433 Test software developments

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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 at least one test plan that covers specific test requirements, according to organisational guidelines and industry standard test frameworks.

In the course of the above, the candidate must:

- apply at least three test case design techniques
- design, implement and execute a test procedure and a script using a unit test framework and an integrated development environment (IDE)
- create a test progress report according to recorded test results.

Knowledge Evidence

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

- applicable programming languages that may be used to test software developments
- input and output requirements and basic data structures that may be used to test software developments
- software development life cycle
- design techniques that may be used to test software developments
- processes, tools and techniques for testing small-size applications
- industry standard unit test frameworks
- organisational guidelines and procedures applicable to software development and software development testing frameworks
- defect management processes and documentation techniques that may be used to test software developments
- test-case design techniques.

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:

- a software development environment
- integrated development environment (IDE)
- specific test requirements including test-plan document
- code requiring testing
- software to create test plan and report
- required hardware and its components.

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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