



Australian Government

ICTSAS521 Perform integration tests

Release: 1

ICTSAS521 Perform integration tests

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 4.0.

Application

This unit describes the skills and knowledge required to ensure that the components of the system operate together to the expected standard.

It applies to experienced development staff who are responsible for ensuring that components function correctly when combined so as not to impact availability or user experience.

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 Prepare and initialise test environment and select testing tools according to the test plan 1.2 Review results of earlier component testing and identify critical issues to be considered in test scripts 1.3 Prepare integration tests and document expected test results according to organisational test procedures 1.4 Review expected test results against acceptance and test criteria and earlier component testing and correct discrepancies 1.5 Perform static tests of each point of integration and verify correctness of each integration test according to test plan
2. Conduct test	2.1 Run test scripts and document results against software life cycle

	model 2.2 Compare and document test results to expected test results on completion of each integration test
3. Analyse and classify results	3.1 Summarise and classify test results and highlight areas of concern according to organisational test procedures 3.2 Compare test results against system specifications, and acceptance and test criteria and prepare test results report 3.3 Notify contact in operations of completion of testing and communicate implications according to the test plan 3.4 Seek, obtain and incorporate feedback from superior on test results report, and log comments and gain required signatures 3.5 Agree next actions with superior based on test results report and incorporate into test results report 3.6 Finalise test results report according to organisational test procedures

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
Reading	Analyses and evaluates textual and numerical information from a range of documentation to determine required action
Writing	- Accurately records information and system data using required format, terminology and conventions specific to requirements - Prepares reports using concise language and correct spelling and grammar to convey explicit information, requirements and recommendations
Oral Communication	Uses clear and accurate language and inclusive and collaborative techniques to convey and obtain information from a range of personnel
Numeracy	Uses mathematical equations to calculate, compare and evaluate numerical test data to determine required actions
Interact with others	Identifies and uses appropriate conventions and protocols when communicating with colleagues and stakeholders
Get the work done	Develops plans to manage relatively complex routine and non-routine tasks with an awareness of how they might contribute to broader strategy and goals

	• Uses problem solving techniques in analysing required outcomes to perform integration tests • Uses digital technologies to manage information and communications technology (ICT) operations
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Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTSAS521 Perform integration tests	ICTSAS514 Perform integration tests	Edits to performance criteria to clarify intent. Updates to assessment requirements.	Equivalent unit

Links

Companion Volume Implementation Guides are available from VETNet -

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

Assessment Requirements for ICTSAS521 Perform integration tests

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Performance Evidence

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

- On two occasions using one or more system:
 - prepare and initialise a test environment
 - construct integration tests addressing memory leakage, global name-space pollution and static variables
 - conduct static tests of integration points including the use of arguments, positional parameters and return values
 - adjust test scripts according to results of earlier component testing
 - conduct tests according to test scripts using appropriate test tools, integration standards and quality benchmarks
 - determine whether components operate according to specifications
 - analyse and classify test results
 - prepare and finalise test results report including gaining approval from superior

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

- Key features of two programming languages
- Features and processes of automated test tools
- Systems specifications analysis
- Features and common problems relating to the system being tested
- Key features and processes of integration testing techniques and tools, and associated advantages and disadvantages

Assessment Conditions

Skills must be demonstrated in a workplace or simulated environment where conditions are typical of those experienced in an ICT workplace or working environment. This includes access to:

- Automated testing tools
- Acceptance and test criteria
- Test plan
- Individual contact in operations in the organisation
- Software life cycle model
- Integration standards
- System specifications
- Results of component testing
- System suitable for testing
- Organisational testing procedures including quality benchmarks and integration standards

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

Links

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