



Australian Government

ICTAUT403 Conduct software quality assurance testing

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with the Information and Communications Technology Training Package Version 8.0. Newly created unit of competency to address in-demand skills needs.

Application

This unit describes the skills and knowledge required to create software quality assurance (SQA) test plans and to troubleshoot organisational software as part of the software development lifecycle. It includes troubleshooting software development methods, processes, technologies and tools.

The unit applies to individuals working in information and communications technology (ICT) roles, such as SQA testers and assistants to software engineers.

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

Unit Sector

Automation

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 SQA testing	1.1 Confirm work brief and tasks according to organisational policies and procedures 1.2 Obtain and analyse software lifecycle documentation in the context of organisational requirements 1.3 Create software test script according to vendor specifications and work brief 1.4 Create software test case according to vendor specifications and work brief 1.5 Seek approval on test script and case from authorising

ELEMENT	PERFORMANCE CRITERIA
	personnel
2. Develop test environments	2.1 Execute test script and test case, and document results in required format 2.2 Research and report on automatic SQA testing 2.3 Analyse organisational hardware, software and operating system 2.4 Select and source continuous integration tools 2.5 Configure test environment according to analysis
3. Conduct SQA testing	3.1 Create software issues register according to organisational policies and procedures 3.2 Create SQA test plan according to analysis 3.3 Troubleshoot software according to test plan 3.4 Document any issues in register 3.5 Consult with software developers, and identify and record potential solutions 3.6 Confirm that test results and proposed solutions are documented in required location and format
4. Finalise SQA testing	4.1 File and store SQA test results in required location 4.2 Present SQA test plan and seek feedback from required personnel 4.3 Implement feedback and document changes, where required

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	Interprets a range of technical specifications and other information and determines solutions according to requirements
Writing	Creates files, scripts and plans using software and applicable technical language
Initiative and enterprise	Identifies concepts, principles and features of approaches in other contexts and redesigns them according to situation
Planning and organising	Uses systematic processes for goal setting and information gathering and evaluates options against agreed criteria

Skill	Description
Problem solving	• Contributes to continuous improvement of digital processes by applying basic principles of analytical thinking
Self-management	• Makes some critical and non-critical decisions to develop and test, functional processes and procedures according to requirements
Technology	• Identifies and confirms purposes, specific functions and key features of common digital systems and tools • Applies principles, concepts, language and practices applicable to digital world

Unit Mapping Information

No equivalent unit. Newly created unit.

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 ICTAUT403 Conduct software quality assurance testing

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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:

- create at least two software quality assurance (SQA) test plans
- troubleshoot at least one type of organisational software using created SQA test plan.

In the course of the above, the candidate must:

- update and adhere to SQA test plans
- apply required organisational policies and procedures.

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:

- industry-recognised automatic and manual SQA processes
- key functions and features of software development lifecycles and documentation, including:
 - test cases
 - test scripts
- functions and features of test environments
- types of continuous integration tools
- troubleshooting procedures required when conducting SQA testing
- functions and features of SQA test plans
- key stages of SQA testing procedures, including:
 - unit testing
 - integration testing

- function testing
- system testing
- acceptance testing
- installation testing
- functions and features of software issue registers
- organisational formats for documentation and reports
- organisational policies and procedures, and legislative requirements relating to work tasks.

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:

- software, tools and equipment to enable SQA to be conducted
- opportunities for interaction with others
- work brief and organisational policies and procedures required to demonstrate the performance evidence.

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

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