



Australian Government

Department of Education, Employment and Workplace Relations

ICAT5081B Perform systems test

Release: 1

ICAT5081B Perform systems test

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	<p>This unit defines the competency required to ensure that the properties of the entire system are tested and proved adequate before handover to the client/user for final acceptance testing.</p> <p>These units are linked and form an appropriate cluster:</p> <ul style="list-style-type: none"> • ICAA5056B Prepare disaster recovery and contingency plans • ICAT5084B Perform stress and load testing on integrated platform <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p>
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Application of the Unit

Application of the unit	
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units			
	<table border="1"> <tr> <td>ICAT3025B</td> <td>Run standard diagnostic tests</td> </tr> </table>	ICAT3025B	Run standard diagnostic tests
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Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for test	1.1. Prepare the <i>test environment</i> 1.2. Determine software life cycle 1.3. Define test plan and appropriate <i>test tools</i> 1.4. Recognise and separate the system into run-able modules mirroring live scenarios 1.5. Gather and prepare logs and result sheets 1.6. Notify operations of scheduled test to ensure preparedness and understanding of implications for operations 1.7. Prepare test scripts (online test) or test run (batch test) for running 1.8. Review expected results against acceptance criteria (walkthrough) and system requirements documentation
2. Conduct test	2.1. Run test scripts and document results in line with test and acceptance processes 2.2. Perform required quality benchmarks or comparisons in readiness for acceptance testing 2.3. Adopt organisation/industry standards, where appropriate 2.4. Compare actual results to expected results on completion of each system unit, and complete result sheets
3. Analyse and classify results	3.1. Summarise and classify results, highlighting critical or urgent areas of concern and prepare report 3.2. Compare results against requirements 3.3. Notify operations of test completion 3.4. Log attendees' details/comments and gain required signatures 3.5. Schedule feedback meeting to discuss report and possible next actions with stakeholders if necessary 3.6. Ensure test reporting compliance with documentation and reporting standards

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- Problem solving skills for a defined range of unpredictable problems involving participation in the development of strategic initiatives, for example when ability to recognise and separate the system into run-able modules mirroring live scenarios is demonstrated such as the case with end of day, interactive query scenarios of various loads)
- Plain English literacy and communication skills in relation to analysis, evaluation and presentation of information (e.g. when attendees' details/comments are logged and signatures are gained)
- Analysis/Programming skills in relation to testing the operation and consistency of the total system (e.g. when test scripts (online test) or test run (batch test) are prepared for running)
- Questioning and active listening skills (e.g. when attendees' details/comments are logged and signatures are gained)

Required knowledge

- Broad general knowledge of system requirements, with detailed knowledge of particular system requirements and features
- Broad knowledge of automated test tools, with detailed knowledge of features and processes in some areas
- Organisational rules for preparing test
- Detailed knowledge of underlying test data
- Detailed knowledge of input/output requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • Assessment must confirm sufficient knowledge of components and run-able modules that make up a total system. <p>To demonstrate competency in this unit the person will require access to:</p> <ul style="list-style-type: none"> • System test plan • Requirements and design documents • Test plan • Human resources assigned and in place • Test hardware and environments in place and free for system test use • System/application suitable for testing
Context of and specific resources for assessment	<p>All testing should be carried out on the same platform as the completed system. Scheduled testing should be on the production platform. The production environment is required as part of test preparation.</p> <p>The systems test is a fully functional exercising of the system to be implemented. As such, all resources necessary to execute the entire system will be required.</p> <p>The purpose of system testing is to identify defects that will only surface when a complete system is assembled. That is, defects that cannot be attributed to individual components or the interaction between two components. System testing includes testing of performance, security, configuration sensitivity, start-up and recovery from failure modes and takes place prior to delivery.</p> <p>The breadth, depth and complexity covering planning and initiation of alternative approaches to skills or</p>

EVIDENCE GUIDE	
	<p>knowledge applications across a broad range of technical and/or management requirements, evaluation and coordination would be characteristic.</p> <p>Assessment must ensure:</p> <ul style="list-style-type: none"> • The demonstration of competency may also require self-directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others. • Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team coordination may also be involved.
<p>Method of assessment</p>	<p>The purpose of this unit is to define the standard of performance to be achieved in the workplace. In undertaking training and assessment activities related to this unit, consideration should be given to the implementation of appropriate diversity and accessibility practices in order to accommodate people who may have special needs. Additional guidance on these and related matters is provided in ICA05 Section 1.</p> <ul style="list-style-type: none"> • Competency in this unit should be assessed using summative assessment to ensure consistency of performance in a range of contexts. This unit can be assessed either in the workplace or in a simulated environment. However, simulated activities must closely reflect the workplace to enable full demonstration of competency. • Assessment will usually include observation of real or simulated work processes and procedures and/or performance in a project context as well as questioning on underpinning knowledge and skills. The questioning of team members, supervisors, subordinates, peers and clients where appropriate

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	<p>may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario.</p>
Guidance information for assessment	<p>Assessment must confirm the ability to test the operation and consistency of the total system according to the system requirements.</p> <p>The person will have clearly identified the results of the systems tests. The system test should clearly confirm that:</p> <ul style="list-style-type: none"> • Functionality, delivered by the development team, is as specified by the business in the business design specification document and the requirements documentation • Software is of high quality; the software will replace/support the intended business functions and achieves the standards required by the organisation for the development of new systems • Software delivered interfaces correctly with existing systems <p>If the system test does not confirm the above, then the person will need to document how the system has not met the test criteria.</p> <p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • ICAA5056B Prepare disaster recovery and contingency plans • ICAT5084B Perform stress and load testing on integrated platform <p>An individual demonstrating this competency would be able to:</p> <ul style="list-style-type: none"> • Demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas • Analyse and plan approaches to technical problems

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	<p>or management requirements</p> <ul style="list-style-type: none"> • Transfer and apply theoretical concepts and/or technical or creative skills to a range of situations • Evaluate information, using it to forecast for planning or research purposes • Take responsibility for own outputs in relation to broad quantity and quality parameters • Take some responsibility for the achievement of group outcomes • Maintain knowledge of industry products and services
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Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Test environment</i>	<ul style="list-style-type: none"> • data • program libraries • network/communications and other equipment • operating system • other support software
<i>Test tools</i> may include:	<ul style="list-style-type: none"> • Code/unit/class testing: AssertMate, BoundsChecker, C-Cover, CodeReview, CodeWizard, DeepCover, FailSafe, Hindsight, Insure++, JCAST, Logiscope, JavaPureCheck • Stress load testing: automated test facilities, e-Load, E-TEST Suite, e-MONITO, Astra SiteManager, Astra SiteTest, AutoTester Web, LoadRunner, JavaLoad • Applications testing: DataShark, Cyrano Suite, Datatect, preVue-C/S

Unit Sector(s)

Unit sector	Test
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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