ICAT5084B Perform stress and load testing on integrated platform

Release: 1

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Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit defines the competency required to plan and perform stress and load testing on the integrated platform.
	No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Application of the Unit

Application of the unit	

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

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.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Create test plan	1.1. Determine scope, objectives and specific tests in order to place load on the **system**, include expected results and performance impact
	1.2. Determine and document standards for acceptance/compliance with **client**
	1.3. Determine and document clear responsibilities and contact points with third-party suppliers for support
	1.4. Ascertain testing resources and tools from a range of available sources
	1.5. Identify and record base system loads or level of activity against which the test will be measured
	1.6. Identify processes/steps in test, including automated testing
	1.7. Assemble test plan documentation and distribute to **appropriate person**
2. Undertake test	2.1. Implement test plan according to test plan sequencing
	2.2. Confirm that each technology **component** operates correctly within integrated platform
	2.3. Confirm that integrated platform operates to project and industry standards
	2.4. Undertake documentation of testing outcomes to meet project standards
	2.5. Detect faults
3. Diagnose and resolve faults	3.1. Identify and document faults according to **project plan**
	3.2. Diagnose faults and take corrective action
	3.3. Manage problem resolution processes according to project procedures
	3.4. Enforce compliance standards with third-party suppliers, as required
4. Update documentation	4.1. Update appropriate project and system documentation to record and present test findings to development staff for their attention, if test is unsuccessful

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 broad range of unpredictable problems involving analysis, diagnosis, evaluation and the development of new criteria, knowledge or procedures (e.g. when problem resolution processes are managed according to project procedures)
- Estimating skills for use across a range of unpredictable project contexts in relation to either varied or highly specific functions (e.g. when scope, objectives and specific tests are determined in order to place load on the system and expected results and performance impact are determined)
- An ability to collect information and gain consensus on concepts, (e.g. when standards for acceptance/compliance are determined with client, and when clear responsibilities and contact points with third-party suppliers for support are determined)
- Negotiation and influencing skills in relation to team members and applied to a undefined range of unpredictable problems (e.g. when clear responsibilities and contact points with third-party suppliers for support are determined)

Required knowledge

- Detailed knowledge of program design and performance
- Detailed knowledge of system/application requirements and performance
- Broad knowledge of testing techniques, with detailed knowledge of features and processes in some areas
- Broad knowledge of automated test tools, with detailed knowledge of features and processes in some areas

Evidence Guide

EVIDENCE GUIDE	
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.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • Assessment must confirm the ability to comprehensively test the system's ability to cope with expected high levels of data volume while meeting the predetermined performance standards. • Assessment must confirm the ability to identify problems and identify fault resolution strategies that may occur during stress testing. To demonstrate competency in this unit the person will require access to: • Business requirements • Project documentation, including templates, standards, specifications, client user and technical manuals • Business rules and expected loads • Base tools • Technical components of system, including software, hardware, network • Staffing resources, including development, operations, client user representatives (in a simulation, the trainer/assessor may take on some of these roles) • System/application suitable for testing
Context of and specific resources for assessment	The person will need to ensure that: • System operates in the manner expected under expected conditions • Supporting material such as procedures and forms is accurate and suitable for the purpose intended • Stated conditions reflect the upper limits expected by client • There are no unacceptable reductions in service • Individual elements and the overall system provide the desired result or functionality

EVIDENCE GUIDE	
	• Documentation is available and accurate Stress load testing usually occurs during the implementation phase, but planning and preparation should begin in the design phase, and run concurrently (design/code/implementation). The breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and coordination would be characteristic. Assessment must ensure: • 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.
Method of assessment	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. • 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

EVIDENCE GUIDE	
	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 may provide valuable input to the assessment process. The interdependence of units for assessment purposes may vary with the particular project or scenario.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended. An individual demonstrating this competency would be able to: • Demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas • Analyse and plan approaches to technical problems or management requirements • 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

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different

RANGE STATEMENT	
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.	
System may include but is not limited to:	• databases • applications • servers • operating systems • gateways • application service provider • ISP
Appropriate person may include:	• supervisor • teacher • authorised business representative • client
Component may include:	• severs • networks • databases • software integration and more
Client may include but is not limited to:	• internal departments • external organisations • individual people • internal employees
Project plan may include:	• parties and their responsibilities • project scope • project objectives • schedule • project budget

Unit Sector(s)

Unit sector	Test

Co-requisite units

Co-requisite units		

Competency field

Competency field	