



Australian Government

ICTPRG533 Debug and monitor applications

Release: 1

ICTPRG533 Debug and monitor applications

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 debug and monitor a software application.

It applies to software developers, testers and support engineers who use logging and tracing techniques to identify software problems and monitor systems.

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. Implement logging and error handling framework	1.1 Determine logging framework for writing text messages and prioritise log files for sending data to monitoring applications 1.2 Create custom event log for the application according to logging framework 1.3 Test logs and check required state of running application according to logging and error handling framework
2. Debug and trace application	2.1 Apply basic debugging techniques according to error handling framework 2.2 Identify required tools and debug software applications 2.3 Write required code for debugging as required according to error handling framework
3. Monitor the application's	3.1 Identify and use profiling tools and verify parts of system

ELEMENT	PERFORMANCE CRITERIA
performance	that consume the most resources 3.2 Analyse and document performance issues and apply application performance improving changes

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

SKILL	DESCRIPTION
Numeracy	Selects from, and applies, an expanding range of mathematical and problem-solving strategies when analysing logs, and monitoring applications data
Reading	Interprets and critically analyses complex texts, and applies the required strategies to construct meaning from complex texts
Writing	Writes and edits code and technical data in a logical manner using required syntax
Planning and organising	Uses systematic, analytical processes in complex, non-routine situations, setting goals, gathering relevant information, and identifying, and evaluating options against the agreed criteria
Problem solving	- Uses analytical processes to decide on a course of action, establishing the criteria for deciding between options - Uses a systematic process to identify possible solutions to a difficult problem
Technology	Understands the key principles and concepts underpinning the design, and operation, of digital systems and tools

Unit Mapping Information

Supersedes and is equivalent to ICTPRG503 Debug and monitor 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 ICTPRG533 Debug and monitor applications

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 6.0.

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:

- implement changes to improve an application's performance on at least one application.

In the course of the above, the candidate must:

- collect application performance data
- identify and analyse performance issues
- use a logging framework to create an event log for an application
- use tools and techniques to trace and debug an application.

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 standard logging frameworks, including:
 - logging
 - tracing tools and their functions
 - profiling tools and their functions
- basic principles of:
 - database-management systems
 - object-oriented programming
 - open-source development tools
 - software development life cycle (SDLC)
- procedures for developing, debugging and monitoring small-size applications.

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:

- performance monitoring tools on client and server system
- specific debugging tools and licenses
- integrated development environment (IDE)
- end user device.

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

Links

Companion Volume Implementation Guide is found on VETNet -

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