



Australian Government

ICTPRG429 Maintain open-source code programs

Release: 1

ICTPRG429 Maintain open-source code programs

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 contribute as a member of an open-source software project community and to maintain open-source code.

It applies to those who work as open-source software developers who are required to build, test, distribute and maintain open-source software applications, as well as programmers who are responsible for integrating open-source components, tools and technologies into their applications.

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. Investigate open-source paradigm	1.1 Examine open-source paradigm and analyse differences with traditional software development models 1.2 Identify types of online resources, including open source communities 1.3 Investigate types of project documentation 1.4 Identify and analyse role of an online community and international collaboration 1.5 Examine motivational factors for contributors to open-source code 1.6 Analyse open-source licensing models
2. Familiarise with target	2.1 Identify open source target program requiring maintenance

ELEMENT	PERFORMANCE CRITERIA
program	2.2 Establish and confirm target program requirements and specifications 2.3 Examine online resources applicable to target program 2.4 Download executable binaries and install and run target program 2.5 Access and analyse supporting documentation
3. Prepare and perform support activities	3.1 Select and register with online community open-source group 3.2 Download snapshots of latest source code and supporting documentation according to organisational procedures 3.3 Build and execute a snapshot according to project requirements
4. Maintain code	4.1 Access project bug database and select bugs to be resolved and features to be added 4.2 Use applicable software-development tools and environment according to project requirements 4.3 Make changes to local copy of code and resolve selected bugs 4.4 Test resulting code and confirm identified bugs are resolved 4.5 Prepare and submit code patch to repository according to project requirements
5. Participate in community	5.1 Exchange messages with other project members and actively participate in community activities 5.2 Submit code and documentation code patches online 5.3 Access online project resources and identify project and community developments 5.4 Maintain and observe community-participation standards
6. Document and finalise project	6.1 Access project documentation according to organisational procedures 6.2 Prepare and contribute new information and updates using existing documentation 6.3 Submit documented changes to required personnel and obtain sign-off

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
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SKILL	DESCRIPTION
Oral Communication	• Uses listening and questioning techniques to articulate information and requirements using detailed language
Reading	• Interprets intermediate technical and non-technical, information from a range of sources
Writing	• Prepares documentation recording work performed and findings according to organisational procedures
Teamwork	• Collaborates with others and achieves required outcome • Selects and uses required conventions and protocols when conferring with community members
Problem solving	• Resolves technical and conceptual problems by applying analytical processes • Systematically gathers and analyses all required information and evaluates options in making informed decisions
Technology	• Uses digital technologies and locates and stores required information and communicates with others • Uses a range of sophisticated digital tools and techniques

Unit Mapping Information

Supersedes and is equivalent to ICTPRG401 Maintain open-source code programs.

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 ICTPRG429 Maintain open-source code programs

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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:

- install and run at least one open source code program according to organisational procedures.

In the course of the above, the candidate must:

- participate in at least one online open source code program community
- document program source code changes and additions
- build, modify and test code
- identify and resolve at least one bug
- test and confirm bug is fixed.

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 software development models and tools
- open source licensing models and techniques
- debugging and testing techniques
- documentation techniques, including internal documentation, user guides and technical documentation
- open-source development methodology
- available online resources that may be used to maintain open-source code programs
- existing online project communities and their involvement in maintaining source codes.

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:

- open source code projects and programming languages
- the internet.

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

Links

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