



Australian Government

ICTPRG401 Maintain open-source code programs

Release: 1

ICTPRG401 Maintain open-source code programs

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 1.0.

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 individuals working in software and system development, and maintenance. They may work as open-source software developers who are required to build, test and distribute open-source software applications, or as programmers responsible for integrating open-source components, tools or 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 the open-source paradigm	1.1 Examine the open-source paradigm and analyse the differences with traditional software development models 1.2 Investigate the types of online resources 1.3 Investigate the types of project documentation 1.4 Recognise the role of an online community, and international collaboration 1.5 Examine motivational factors for contributors to open-source code 1.6 Analyse the open-source licensing models

ELEMENT	PERFORMANCE CRITERIA
2. Familiarise with target project	2.1 Examine the online resources associated with the target project 2.2 Download pre-built executable binaries to install, and run, the project 2.3 Download and analyse the supporting documentation
3. Prepare for maintenance activities	3.1 Select, and register with, a relevant online community open-source group 3.2 Download nightly snapshots of the latest source code and the supporting documentation 3.3 Build and execute a snapshot, where appropriate
4. Maintain the code	4.1 Access the project bug database, and select the bugs to be resolved or the features to be added 4.2 Make changes to the local copy of the code, in order to resolve selected bugs 4.3 Test the resulting code to ensure that it performs appropriately 4.4 Prepare the code patch for submission 4.5 Submit a code patch to the project 4.6 Use the appropriate software-development tools and environment
5. Maintain the documentation	5.1 Access the project documentation 5.2 Prepare and contribute new information, or updates, to the existing documentation 5.3 Prepare and submit documented changes to the project
6. Participate in community	6.1 Exchange messages with other project members and actively participate in community activities 6.2 Take action to ensure that exchanges are socially acceptable 6.3 Submit the code and documentation code patches for inclusion 6.4 Access online project resources frequently, to keep up-to-date with the project and with community developments 6.5 Take action to ensure that community-participation standards are observed and maintained

Foundation Skills

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

Skill	Performance Criteria	Description
Reading	1.1, 1.2, 1.3, 1.6, 2.1, 2.3, 4.1	Interprets complex technical, and non-technical, information from a range of sources
Writing	2.2, 2.3, 3.1, 4.2, 4.4, 5.2, 5.3, 6.1	Selects the vocabulary, grammatical structures and conventions, appropriate to the context and audience
Interact with others	6.1, 6.2, 6.5	- Collaborates with others in order to achieve the best possible outcome - Selects and uses the appropriate conventions, and protocols, when conferring with community members
Get the work done	1.4, 1.5, 2.2, 2.3, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.5, 4.6, 6.1, 6.2, 6.3, 6.4, 6.5	- Applies analytical processes to resolve technical or conceptual problems - Systematically gathers and analyses all relevant information, and evaluates options in order to make informed decisions - Uses digital technologies to locate and store relevant information, and to communicate with others - Uses a range of sophisticated digital tools and techniques to meet the desired outcomes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTPRG401 Maintain open-source code programs	ICAPRG401A Maintain open-source code programs	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for ICTPRG401 Maintain open-source code programs

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Performance Evidence

Evidence of the ability to:

- contribute to an open-source project
- program source code changes and/or additions
- document changes or additions
- investigate, utilise and participate in online resources for the project's direction
- build, modify, and test the code
- participate in the online community.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- explain debugging and testing techniques
- describe documentation techniques, including internal documentation, user guides and technical documentation
- explain open-source development methodology
- describe online project communities, and their involvement in games development.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the programming and software development industry, and include access to:

- the software development environment
- the internet

- technical requirements
- databases
- information repositories
- programming languages
- group-facilitation software.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

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