



Australian Government

ICTICT449 Use version control systems in development environments

Release: 1

ICTICT449 Use version control systems in development environments

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 use version control systems to track content, versions and maintain a code repository of work when developing in an ICT environment.

It applies to individuals who work in a development environment and create a history of changes to track multiple versions of their own or team's work. These development environments include processes of designing, building and testing code and product.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

General ICT

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. Prepare to use version control systems (VCS)	1.1 Research and choose version control system (VCS) according to organisational requirements 1.2 Identify required subversion and VCS pre-installation factors 1.3 Determine and communicate installation disruption to required personnel according to organisational policies and procedures 1.4 Install VCS and create personal account and push changes from branch according to VCS service provider and organisational requirements 1.5 Configure tools and user interface of VCS according to organisational requirements

2. Build files in VCS	2.1 Create local repository according to service provider procedures 2.2 Create required directory according to service provider procedures and organisational requirements 2.3 Create and access required staging environment structures and branches 2.4 Create and access files in the repository according to service provider procedures
3. Test VCS	3.1 Add and commit files to staging environment 3.2 Commit required files to local depository 3.3 Locate track of initial version change and confirm new status according to service provider procedures 3.4 Respond to remote pull requests according to service provider procedures 3.5 Retrieve remote commits and locally merge according to service provider procedures
4. Finalise use of VCS	4.1 Document VCS test outcomes according to organisational requirements 4.2 Submit documented outcomes to required personnel 4.3 Respond to feedback on documented outcomes from required personnel 4.4 Obtain final task sign off from required personnel

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
Oral communication	• Uses listening and questioning techniques and effective mode of communication to confirm requirements and negotiate outcomes using required language
Reading	• Analyses textual information to establish requirements
Writing	• Prepares documentation for final outcomes using comprehensive structure, layout and complex industry language
Teamwork	• Applies protocols governing what to communicate, with whom and how, in a range of work contexts
Planning and organising	• Plans a range of routine, and some non-routine, tasks, accepting stated goals and required outcomes

SKILL	DESCRIPTION
Problem solving	• Gathers information and identifies and evaluates several choices against a limited set of criteria • Applies formal problem-solving processes when tackling unfamiliar problems, breaking complex issues into manageable parts and identifying and evaluating options for action
Self-management	• Follows explicit and implicit procedures and meets expectations associated with own role when submitting documentation for approval and completing organisational requirements
Technology	• Uses procedures and techniques to maintain articulation of version control systems

Unit Mapping Information

No equivalent unit. New unit.

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 ICTICT449 Use version control systems in development environments

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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:

- plan, install, create and manage a code on one repository of work on at least three occasions.

In the course of the above, the candidate must:

- communicate down time, service interruptions and installation of service
- document final outcomes.

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:

- distributed and centralised version control systems
- web-based DevOps lifecycle tools
- DevOps automation tools
- branching, pull and push commands local/remote
- key policies, procedures and documentation required to use version control systems in development environments, including those related to:
 - repositories and working copies
 - merging and merge tools
 - working and indiscriminative commits
 - resolving conflict and backout changes
- principles and techniques of creating repositories and branch workflows
- version control industry standard best practices
- distributed version control industry standard best practices
- workflow processes applicable to using version control systems.

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:

- the internet, including connectivity
- required hardware, software and applications
- simulated work tasks and projects
- industry standard version control systems and vendor products
- organisation's ICT policies, procedures and best practice guidelines imperative to task.

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

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