



Australian Government

ICTPRG447 Use extensible markup language

Release: 1

ICTPRG447 Use extensible markup language

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 create extensible markup language (XML) documents, web-service applications, and client applications to consume web services.

It applies to those who are web developers, web programmers or application programmers, who build Windows or web-based applications that access data in XML format, or who develop and consume web services.

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. Represent structured data with XML	1.1 Identify task and information requirements and applicable organisational policies and procedures in creating XML document 1.2 Gather information by analysing data, documents, problem domains and discussions with required personnel 1.3 Write XML document and incorporate required structure and syntax according to task requirements 1.4 Validate XML document using validation tools 1.5 Format XML document using styling tools

ELEMENT	PERFORMANCE CRITERIA
2. Access and manipulate XML document using XML parser application programming interface (API)	2.1 Create new XML document according to task requirements 2.2 Access and traverse elements and attributes 2.3 Modify and delete elements and attributes according to task requirements 2.4 Transform XML document into a data object 2.5 Transform data object into an XML document
3. Create a service-oriented application using XML	3.1 Define web-services architecture and platform elements 3.2 Develop and deploy web-service applications using a language 3.3 Develop a client application and consume web service using a language

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
Numeracy	- Selects from, and applies mathematical and problem-solving techniques in a range of contexts - Identifies order and position of elements in a sequence using XML
Oral communication	Uses listening and questioning techniques to confirm requirements and articulate ideas
Reading	- Interprets, critically analyses and applies required strategies - Constructs meaning when gathering information by analysing data, documents and problem domains
Writing	- Prepares documentation expressing ideas, explores complex issues, and is constructed logically, succinctly and accurately - Writes and edits code and technical data, and confirms correct syntax and accuracy
Planning and organising	Uses systematic, analytical processes in predictable and unpredictable situations, setting goals and gathering required information
Problem solving	- Applies formal problem-solving processes when tackling unfamiliar problems - Breaks complex issues into manageable parts and identifies and

SKILL	DESCRIPTION
	evaluates several options for action
Technology	Utilises broad range of features within applications and improves personal productivity and optimises software functions

Unit Mapping Information

Supersedes and is equivalent to ICTPRG427 Use XML effectively.

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 ICTPRG447 Use extensible markup language

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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:

- produce at least two well-formed, formatted and validated XML documents
- use an XML parser to access, modify and transform XML documentation
- create at least one service-oriented application using XML.

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:

- tree structure of data to be represented
- web services architecture and platform elements
- programming concepts and languages including structure and syntax
- validation and styling tools within XML
- XML document elements including:
 - root element
 - child element
 - sub-child element
- syntax rules relating to:
 - case sensitivity
 - closing tag
 - entity reference
 - proper nesting
 - quoted attribute values
 - single-root element
- the main features and services of the internet
- data modelling techniques and procedures
- commonly used elements in hypertext markup language (HTML)

- information system features
- XML parser application programming interface (API) and functions
- source characteristics.

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:

- required hardware and its components
- extensive markup language (XML) and JavaScript object notation (JSON) tools and software
- tools to access and develop a data source including:
 - a text editor
 - a web browser
 - client and functionality requirements and documentation
- a web server and software that hosts services to deploy and test the web-service application
- required libraries.

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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