



Australian Government

ICTWEB526 Implement and use web services

Release: 1

ICTWEB526 Implement and use web services

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 support web services for building distributed applications.

It applies to individuals working as software developers and apply specialised skills in the consumption of web services, applicable communications protocols and extensible markup language (XML) technologies used in web services.

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

Unit Sector

Web

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. Provide information using XML	1.1 Create XML data structures from various data sources 1.2 Manipulate XML data structures using a common application programming interface (API) 1.3 Scope elements from multiple XML documents using namespaces 1.4 Validate XML data structures using a schema 1.5 Map and transform XML document from one schema to another
2. Promote web service using WSDL	2.1 Identify purpose and the three main elements of the web service description language (WSDL) 2.2 Build WSDL file according to identified purpose 2.3 Provide web access to WSDL file via a uniform resource

ELEMENT	PERFORMANCE CRITERIA
	locator (URL)
3. Identify purpose of UDDI in using web services	3.1 Determine purpose of universal description, discovery and integration (UDDI) 3.2 Identify and analyse differences between public, extra-enterprise and intra-enterprise UDDI registry deployments 3.3 Define relationship between WSDL and UDDI
4. Access web services using SOAP	4.1 Identify purpose of simple object access protocol (SOAP) 4.2 Determine relationship between UDDI and SOAP 4.3 Identify basic structure and processing of SOAP messages 4.4 Retrieve XML documents from a public web service, using SOAP
5. Implement a web service	5.1 Outline a basic web service architecture 5.2 Implement, test and publish a web service 5.3 Incorporate and test a web service into an application 5.4 Confirm web service is functional on different browsers and devices 5.5 Seek feedback from required personnel and amend web service as required

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
Reading	Reads and interprets specifications, program data and other documentation from a variety of sources and consolidates information
Writing	- Transforms and writes technical data in a logical manner using required language and protocols - Develops specifications and applicable workplace documentation for specific audiences using applicable language to convey explicit information
Planning and organising	- Accepts responsibility for planning and sequencing complex tasks and workload - Negotiates key aspects with others, including required capabilities, efficiencies and effectiveness
Problem solving	Makes critical decisions quickly and intuitively in complex situations, taking into consideration a range of variables, including outcomes of

SKILL	DESCRIPTION
	- previous decisions • Applies systematic and analytical decision-making processes, for complex situations
Technology	• Confirms knowledge of computing technologies is kept up to date in order to provide and carry out activities • Uses and investigates new digital technologies and applications • Manages and manipulates data and communicates with others in a secure and stable digital environment

Unit Mapping Information

Supersedes and is equivalent to ICTWEB515 Implement and use web services.

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 ICTWEB526 Implement and use web services

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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:

- transform data from at least three relational or other native data sources into an extensible markup language (XML).

In the course of the above, the candidate must:

- provide access to a business functionality via a web service description language (WSDL) file
- locate and retrieve at least three pieces of information about a public web service business function and include it in a website using universal description, discovery and integration (UDDI) and a simple object access protocol (SOAP)
- implement a web service according to business requirements, specifications and industry standards.

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:

- functions and features of web development technologies
- web service testing processes
- purpose and uses of different web services, including XML, WSDL, UDDI and SOAP
- functions and purpose of web service architecture
- functions and features of XML language and data structures and validation techniques
- uses of namespaces
- legislative and organisational requirements applicable to the implementation and use of web services.

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:

- web service business requirement specifications
- legislative requirements applicable to use of web services, including industry standards published by the World Wide Web Consortium (W3C)
- platform-specific documentation and help files describing syntax and use of proprietary technologies
- digital devices simulated development environment including the following elements:
 - a relational database server
 - the integrated development environment (IDE), including related frameworks, APIs and applicable proprietary classes required to implement web services and their enabling technologies
 - a web server
 - web browsers
 - XML editors
 - XML schema
 - XPath testing utilities.

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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