



Australian Government

Department of Education, Employment and Workplace Relations

ICAWEB516A Research and apply emerging web technology trends

Release: 1

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Modification History

Version	Comments
ICAWEB516A	This version first released with <i>ICAI1 Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to keep up-to-date with and apply emerging web technology.

Application of the Unit

This unit applies to web developers and designers who are responsible for implementing the most up-to-date web application.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Identify emerging web technology trends and their uses	1.1 Review new developments in web technology 1.2 Identify appropriate web technology to meet the needs of the web application
2. Implement new web technology trends in a portfolio	2.1 Create code to apply the web technology 2.2 Test web application in a variety of browsers and rectify problems that arise

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to:
 - determine functional requirements
 - identify dynamic client and server-side requirements
- communication skills to liaise with the client
- initiative and enterprise skills to provide feedback and recommend the most appropriate technology solutions
- literacy skills to:
 - follow documented instruction for new technology
 - interpret workplace instructions and other technical documents
- problem-solving skills to:
 - identify and rectify website functional problems
 - identify and resolve bugs in the created code
 - select the most efficient and effective algorithms
- research skills to:
 - find solutions to encountered problems
 - keep up-to-date with industry trends
- technical skills to:
 - apply web programming concepts
 - create hypertext markup language (HTML) and eXtensible hypertext markup language (XHTML) pages
 - create software in a variety of languages, including client and server-side languages
 - create aesthetically pleasing web pages.

Required knowledge

- internet technology
- principles of analysis and design
- programming control structures, object-oriented programming
- web programming concepts, including:
 - hypertext transfer protocol (HTTP)
 - stateless programming
 - session management
 - authentication and web security
 - client-side programming.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • research, investigate and apply emerging web technology trends to a web application.
Context of and specific resources for assessment	<p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • appropriate learning and assessment support when required • modified equipment for people with special needs • development environment • server access • database server • internet access • browsers.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • verbal or written questioning regarding web technology trends • research report of web technology trends • review of the candidate explaining the latest web technology trends and their application to a client • evaluation of a web application using web technology trends.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate.</p> <p>Assessment processes and techniques must be culturally appropriate, and suitable to the communication skill level, language, literacy and numeracy capacity of the candidate and the work being performed.</p> <p>Indigenous people and other people from a non-English</p>

	<p>speaking background may need additional support.</p> <p>In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.</p>
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Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Code may include:	<ul style="list-style-type: none"> • active server pages (ASP) • active server pages. net (ASP.NET) • Coldfusion • JavaScript • jQuery • Java server pages (JSP) • Perl hypertext preprocessor (PHP) • Ruby on Rails.
Browsers may include:	<ul style="list-style-type: none"> • Firefox • Google Chrome • Internet Explorer • Konqueror • Lynx • Mozilla • Netscape Navigator • Opera • Safari.

Unit Sector(s)

Web

Custom Content Section

Not applicable.