



Australian Government

Department of Education, Employment and Workplace Relations

ICA WEB503A Create web-based programs

Release: 1

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Modification History

Release	Comments
Release 1	This Unit 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 develop web applications.

Application of the Unit

This unit applies to web developers responsible for implementing the code required to create web applications.

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 Criteria
<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. Explain the hypertext transfer protocol (HTTP) and its implications when developing web applications	1.1 Describe the HTTP 1.2 Describe the limitations it has when developing web applications 1.3 Identify the advantages of HTTP in developing web applications
2. Implement session management	2.1 Create <i>code</i> to handle <i>session management</i> 2.2 Create code that retains the user's interaction with the website 2.3 Review and debug code
3. Develop applications in a stateless environment	3.1 Develop web applications that keep track of data between browser requests 3.2 Document web application with particular reference to its management of statelessness

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 from a supplied guide
 - interpret workplace instructions and other technical documents
 - review latest industry guidelines
- planning and organisational skills to plan and organise the most appropriate solution
- problem-solving skills to:
 - identify and rectify website functional problems
 - identify and resolve bugs in the code created
 - select the most efficient and effective algorithms
- research skills to:
 - keep up-to-date with industry trends
 - find solutions to encountered problems
- 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 web analysis and design
- programming control structures and object-oriented programming
- web programming concepts:
 - authentication and web security
 - HTTP
 - session management
 - stateless 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"> • obtain requirements • develop web applications that keep track of user data between browser requests • document web applications.
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 • 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 to test candidate's knowledge of the HTTP, session management and stateless programming • evaluation of a web application that handles session management.
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 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>

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.

<i>Code</i> may include:	<ul style="list-style-type: none">• active server pages (ASP)• active server pages. net (ASP.NET)• Coldfusion• Java server pages (JSP)• Perl hypertext preprocessor (PHP)• Ruby on Rails.
<i>Session management</i> may include:	<ul style="list-style-type: none">• authentication• shopping carts.

Unit Sector(s)

Web