



Australian Government

Department of Education, Employment and Workplace Relations

ICAWEB415A Produce server-side script for dynamic web pages

Release: 1

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Modification History

Release	Comments
Release 1	This Unit first released with <i>ICA11 Information and Communications Technology Training Package version 1.0</i>

Unit Descriptor

This unit defines the outcomes, skills and knowledge required to produce server-side scripts for dynamic web pages, using a range of relevant features from different appropriate languages.

Application of the Unit

This unit applies to web designers who are responsible for implementing dynamic web pages using server-side scripting.

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. Analyse requirements for web documents requiring server-side dynamic interaction	1.1 Determine necessary dynamic functionality of the web document 1.2 Determine appropriate language to achieve that functionality 1.3 Determine web document requirements
2. Design server-side scripts	2.1 Design web document and server-side code to interact with an external data source 2.2 Design web document and server-side code to allow an administrator to insert, update and delete entries to the external data source 2.3 Implement security features in the web document
3. Produce web documents	3.1 Write eXtensible hypertext markup language (XHTML) considering accessibility 3.2 Write server-side scripts to current XHTML standards
4. Test scripts and debug	4.1 Test web document against required functionality and reiterate until correct 4.2 Complete documentation and submit to appropriate person for approval
5. Set up security	5.1 Determine necessary permissions to prevent error messages displaying to the public 5.2 Configure server software to minimise potential database attacks

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 server-side requirements
- communication skills to:
 - create a user-friendly web page
 - liaise with the client
- initiative and enterprise skills to provide feedback and recommend the most appropriate technology solutions
- learning skills to research encountered problems independently
- literacy skills to:
 - follow documented instruction from a supplied guide
 - follow server-side naming conventions
 - interpret workplace instructions and other technical documents
 - keep up-to-date with latest industry guidelines
- planning and organisational skills to determine the most appropriate solution
- problem-solving skills to:
 - identify and rectify website functional problems
 - identify and resolve bugs in the code created
 - identify and resolve error messages
 - select the most efficient and effective algorithms
- research skills to find:
 - best-fit solution to client requirements
 - solutions to encountered problems
- technical skills to:
 - apply web-programming concepts
 - create hypertext markup language (HTML) and XHTML pages
 - create software in a variety of server-side languages
 - create web pages that are aesthetically pleasing, logically laid out and user-friendly.

Required knowledge

- server-side technologies and relevant web scripting languages
- server-side web analysis and design parameters
- programming control structures, object-oriented programming
- web-programming concepts:
 - hypertext transfer protocol (HTTP)
 - stateless programming
 - session management

- authentication and web security.

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	Evidence of the ability to: • create dynamic web pages from a client requirement using server-side scripting to retrieve information from a web-hosted database • create scripts for the quick upload of data to web-hosted databases • create server-side scripts for inserting, updating and deleting data from a web server database • create server-side scripts to encode passwords • create server-side scripts to upload and retrieve images • create server-side scripts to manage sessions and secure login.
Context of and specific resources for assessment	Assessment must ensure access to: • client requirements • functionality and scope requirements • security policy • database server • internet and server access • software development environment • web browsers • appropriate learning and assessment support when required. Where applicable, physical resources should include equipment modified for people with special needs.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • verbal or written questioning of candidate regarding server-side scripts • evaluation of a web application using a project-based scenario to demonstrate level of competency.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, where appropriate. 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. Indigenous people and other people from a non-English speaking background may need additional support. In cases where practical assessment is used it should be combined with targeted questioning to assess required knowledge.
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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.

Web document may include:	• previously created and new HTML documents; saved email files with or without attachments • saved HTML documents.
Language may include:	• active server pages (ASP) • .NET • Perl hypertext preprocessor (PHP) • Ruby On Rails.
External data source may include:	• Microsoft Structured Query Language (MS SQL) database • MySQL database • Oracle database • Postgre database • eXtensible markup language (XML).
Documentation may follow:	• audit trails • International Organization for Standardization (ISO), International Electrotechnical Commission (IEC) and Australian Standards (AS) standards • naming standards • project-management templates • report-writing protocols • version control.
Appropriate person may include:	• authorised business representative • client • supervisor.

Unit Sector(s)

Web