



Student Assessment Guide:

ICTWEB441-ICTWEB518 Display data from XML
document on a web page using JavaScript

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1. Assessment Information

Purpose of assessment

This assessment assesses your knowledge and skills in:

- designing and building an extensible markup document
- producing client-side scripts for creating interactive websites

What you are required to do

For this assessment, you are required to complete seven tasks:

- Task A – Perform knowledge test
- Task B – Perform requirements analysis on the website and xml document
- Task C – Design the website and xml document
- Task D –Develop the website and xml document
- Task E – Test the website and xml document functionality and security
- Task F – Feedback

All tasks of this assessment require you to use the provided case study information relating to the Bryan's Café.

Competencies being assessed

Elements

To achieve competency in this unit, the learner must demonstrate their ability to:

1. Establish and analyse requirements for web documents and xml documents
2. Design and develop web documents and xml documents
3. Test, debug and finalise scripts and xml documents

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Performance Evidence

Evidence of the ability to:

- design and produce a script according to web document functionality requirements and organisational procedures. With this, the learner must be able to:
 - produce dynamic web page documents, considering accessibility of web page
 - test and debug web document functionality and confirm web document is secure
 - document and seek approval from required personnel.
- produce at least two (extensible markup language) XML documents according to technical requirements. With this, the learner must be able to:
 - test and validate XML document on at least two different browsers and at least two different devices
 - comply with applicable organisational policies, procedures and standards.

Knowledge Evidence

The learner must be able to demonstrate knowledge of the following:

- basic principles behind open platform programming
- client-side scripting and its application to dynamic web page design, including:
 - events and event handlers
 - internet operation related to clients
 - internet protocols
 - simple hypertext markup language (HTML)
 - applicable standards
- purpose and differences between server-side and client-side scripting
- standards associated with programming documentation
- script testing methodologies
- cyber security procedures and protocols
- organisational procedures relevant to producing client-side scripts.
- extensible markup language
- unified-modelling language
- software implications for XML programming
- standards impacting XML programming
- design methodologies including software engineering life cycle
- document type definition (DTD)
- XML document components including entities, elements and their attributes
- debugging methods
- document validation and testing procedures
- organisational policies, procedures and standards applicable to building XML documents.

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For further information on the competencies of this unit, please refer to:

- <https://training.gov.au/Training/Details/ICTWEB441>
- <https://training.gov.au/Training/Details/ICTWEB518>

Important resources for completing this assessment

To complete this assessment, please refer to the following resources provided on Moodle:

- ICTWEB441 Student Guide
- ICTWEB441 self-study guide
- ICTWEB518 learner guide
- ICTWEB518 self-study guide
- ICTWEB441_518Case study
- ICTWEB441_518Marking Guide
- Assessment templates

A note on plagiarism and referencing

Plagiarism is a form of theft where the work, ideas, inventions etc. of other people are presented as your own.

When quoting or paraphrasing from a source such as the Internet, the source must be recognised. If quoting from a source, make sure to acknowledge this by including “quotation marks” around the relevant words/sentences or ideas. Note the source at the point at which it is included within the assessment, such as by using a citation. Then list the full details of the source in a ‘references’ section at the end of the assessment.

All sources used for the assessment should be detailed in a ‘references’ section. It is advisable to never copy another person’s work.

Instructions for completing this assessment

Answer the questions below using the spaces provided:

- Answer all parts of each question
- Use your own words and give examples wherever possible
- The quality of your answer is more important than how long it is

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- Enter your answers in this document

You may use various sources of information to inform your answers, including your resources provided by ACBI, books, and online sources. You must acknowledge and cite your sources.

Submission via Moodle

Please refer to the “Instructions for Submitting Your Assessment” found within the unit course page on Moodle.

NOTE: Please take care to follow all instructions listed. Assessments uploaded with a draft status on Moodle may not be graded.

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2. Assessment Cover Sheet

Candidate Name:	Joaquin Ramirez		
Student ID:			
Contact Number:			
Email:	joaquinramirez1689@hotmail.com		
Trainer / Assessor Name:	Cam		
Qualification:	ICT50220 Diploma of Information Technology – Front end web development		
Units of Competency:	ICTWEB441 Produce basic client-side script ICTWEB518 Build a document using extensible markup language		
Assessment Tasks:	<input type="checkbox"/> Task A – Perform knowledge test <input type="checkbox"/> Task B – Perform requirements analysis on the website and xml document <input type="checkbox"/> Task C –Design the website and xml document <input type="checkbox"/> Task D – Develop the website and xml document <input type="checkbox"/> Task E – Test the website and xml document <input type="checkbox"/> Task F– Feedback		
Due Date:		Date Submitted:	
Declaration:	I have read and understood the following information at the beginning of this assessment guide (please tick): <input type="checkbox"/> Assessment information <input type="checkbox"/> Submitting assessments <input type="checkbox"/> Plagiarism and referencing I declare this assessment is my own work and where the work is of others, I have fully referenced that material.		
Name (please print):	joaquin ramirez		
Candidate signature:	jarq		
Date:	3/11/2024		

3. Assessment Questions

Task A - Perform knowledge test

1. List three basic principles upon which open platform programming is based.

When we're talking about open platform programming, there are a few core principles that keep it real. First up, openness is key; it means anyone can access and modify the code. Then you got interoperability, which lets different systems and apps work together smoothly. Lastly, there's the principle of community collaboration: developers and users can pitch in, share ideas, and improve the platform together. These vibes keep the ecosystem fresh and innovative!

2. Describe each of the following terms that relate to client-side scripting and its application to dynamic web page design.

- Events
- Events handlers
- internet protocols
- html
- a standard applies

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Write your answer in the table below

Term	Description
Events	Actions triggered by user interactions (like clicks or keypresses) on a webpage.
Event handlers	Functions that respond to events, like showing a popup when a button is clicked.
Internet protocols	Rules for data communication, like HTTP or HTTPS, enabling web interactions.
Hypertext markup language (HTML)	The basic language for structuring web content, forming the foundation of web pages.
A standard that applies	Guidelines ensuring consistency in web development, like W3C standards for web technologies.

3. Explain the purpose and difference of server-side and client-side scripting.

Client-side scripting runs in the user's browser, handling things like animations and interactions (e.g., JavaScript). Server-side scripting runs on the server, handling things like databases and authentication (e.g., PHP). The key difference is where the code is executed—on the client machine or the server.

4. Describe two standards relevant to programming languages in general.

Answer in 40-80 words.

Write your answer here

Two important standards for programming languages are ISO/IEC 9899 which defines the C programming language, ensuring consistency across implementations, and ECMAScript (ES) which is

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the standard for JavaScript, shaping how JavaScript behaves across different browsers. These standards help maintain compatibility and ensure that code behaves predictably in different environments, making development smoother.

5. List two methods that can be used to test scripts within a website.

Answer in 40-80 words.

Write your answer here

You can test scripts within a website using browser developer tools (like Chrome DevTools) to debug and inspect code, and by creating unit tests with frameworks (like Jest or Mocha) to check individual functions for accuracy.

6. Describe the purpose of extensible markup language.

Answer in 40-80 words.

Extensible Markup Language (XML) is used to store and transport data in a structured, readable way. It lets developers define custom tags, making it flexible for sharing data across different systems or applications.

7. Describe unified modelling language (UML).

Answer in 40-80 words.

Unified Modeling Language (UML) is a visual way to represent software design and systems. It uses diagrams to show how parts of a system interact, making it easier to understand, plan, and communicate the structure and flow of complex software.

8. Give an example of a software that can be used for creating XML documents.

Answer in 40-80 words.

An example of software for creating XML documents is Notepad++ a lightweight text editor that supports XML syntax highlighting and editing, making it easier to manage and format XML files.

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9. Complete the following table, listing two standards that impact XML programming and how.

Answer in 40-80 words.

- Standards that impact on XML programming
- XML Publishing:
- Security Standards:

Write your answer here

Standards that impact on XML programming	How the standard affects XML programming
XML Publishing: https://www.w3.org/standards/xml/publishing	XML Encryption: Ensures sensitive XML data is encrypted, protecting it during transmission. XML Signature: Provides integrity and authenticity by allowing digital signatures on XML data.
Security Standards: https://www.w3.org/standards/xml/security	XPath: A language for navigating and selecting specific parts of an XML document for easier data extraction. XSLT (Extensible Stylesheet Language Transformations): Transforms XML data into different formats like HTML, making it readable and usable in web pages

10. Describe the software development life cycle and its relevance to design methodologies.

Answer in 40-80 words.

Write your answer here

The Software Development Life Cycle (SDLC) is basically the game plan for making software. It covers

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everything from brainstorming ideas to coding, testing, and keeping it running smoothly. Design methodologies, like Agile or Waterfall, fit into this cycle by giving teams a way to work through those stages. So, they help keep projects on track and make sure everyone's on the same page from start to finish.

11. Explain the term document type definition (DTD).

Answer in 40-80 words.

Write your answer here

A Document Type Definition (DTD) is like a rulebook for XML files. It defines what elements and attributes can be in an XML document, making sure the data is structured correctly. DTDs help validate XML content so it follows a specific format, which keeps everything organized and easier to work with.

12. Describe each of the following XML document components.

Entities

Elements

Attributes

Answer in 40-80 words.

Write your answer in the table below

Entities	Entities are basically shortcuts or placeholders for text in an XML document. They can represent special characters (like & for & ;) or even larger chunks of text, making it easier to manage content.
Elements	Elements are the building blocks of XML. They define the structure of the data, with a start tag, content, and an end tag, like <name>John</name>. They can also contain other elements.
Attributes	Attributes provide extra info about elements. They're used within the start tag

	and come in key-value pairs, like <code><person age="30"></code> . They help clarify or describe the data without cluttering the content.
--	---

13. List two debugging methods that can be used for XML.

Answer in 40-80 words.

Write your answer here

Method 1:	You can debug XML using XML validators , which check for well-formedness and structure issues, and debugging tools in browsers or IDEs that allow you to step through XML data, inspect elements, and spot errors visually.
Method 2:	Another debugging method for XML is using XPath queries to test and retrieve specific elements, helping identify issues in data selection. You can also use error logs generated by parsers to pinpoint where problems occur during XML processing.

14. Describe the process for XML document validation.

Write your answer here

XML document validation is the process of checking an XML file against predefined rules to ensure it's well-formed and follows a specific structure. First, you ensure the XML is well-formed, meaning it follows basic syntax rules, like proper opening and closing tags. Then, you validate it against a schema, like a DTD or XML Schema, which defines the expected elements, attributes, and data types. If the XML meets these criteria, it's considered valid; if not, error messages will indicate what needs fixing.

15. Describe the testing process that can be used for XML documents.

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Write your answer here

The testing process for XML documents involves several steps. First, you check for well-formedness ensuring the XML follows basic syntax rules (like matching tags and proper nesting). Next, you perform validation against a DTD or XML Schema to verify the structure and data types. After that, you can use XPath to test specific queries and ensure the right data is returned. Finally, you might run tests on the application that consumes the XML to check for any integration issues. This ensures the XML works smoothly in real-world scenarios.

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Task B – Perform requirements analysis on the website and xml document.

Case Study

Please read the case study provided for this unit to complete tasks B to G. In this assessment, you will play the role of web developer, while your trainer will be your systems analyst.

You need to perform requirements analysis on Bryan's Café website and XML documents. To achieve this, you need to:

- Analyse the case study provided.
- Based on your analysis, create a requirements analysis report using the template with filename: taskBRequirementsAnalysis.docx. This template will be provided in the learning management system. Follow all instructions given in this template and provide the required details on all sections.
 - o Note that a meeting with the systems analyst will take place. The schedule will be provided to you.

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Task C—Design the website and xml documents

Website Design

In this activity, you are to design the website based on the client's requirements using wireframe or mock-up.

The design must be submitted in pdf format with the filename: taskCWebDesign.pdf.

XML Tree Structure

Provide a diagram of the tree structure for each XML document. This can be hand drawn here or developed on a computer in which case you should attach a screenshot.

The tree structure must be submitted in pdf format with the filename: taskCTreeStructure.pdf.

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Task D – Develop the website and xml documents

Based on the case study, create a website project and name it as: bryanCafe. The project should contain the following HTML documents having the following filenames:

HTML Document	Filename	Page Title
About	index.html	About
Menu	Menu.html	Menu
Contact	Contact.html	Contact

Apply the layout, colour and font styling to each of the web pages based on the design and case study.

Once you have completed this task:

- Submit the website project as evidence that you have met the requirements for this task.
- Host the website

Task E—Test the website and xml document functionality and security

You need to test the functionality and security of Bryan's Café website and XML documents. To achieve this, you need to:

- Complete task D.
- **Create the test document using the template with filename: taskESecurityAndTesting.docx.**

This template will be provided in the learning management system. Follow all instructions given in this template and provide the required details on all sections.

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Task F – Feedback

You need to **send an email to your systems analyst asking for approval of your website**. The email should include:

- link to your website
- Link to both of your xml and dtd documents

Based on the XML and DTD documents that you've provided, the systems analyst will:

- Look for errors on your XML and DTD documents and request you to fix the errors
- If there are no errors, you will be provided with an example for you to fix.

Take screenshots of the work you undertook to fix errors.

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4. Candidate Self Checklist

Candidate Self Checklist for Tasks A - F

Candidate name:		
Unit of Competency:	ICTWEB441 Produce basic client-side script ICTWEB518 Build a document using extensible markup language	
Instructions: Place a tick '✓' in the Yes ("Y") column for each question you have completed all parts for.		
Task A –Perform knowledge test.		
Did you:	Y	✓
1. List three basic principles upon which open platform programming is based.		
2. Describe the required terms that relate to client-side scripting and its application to dynamic web page design.		
3. Explain the purpose and difference of server-side and client-side scripting.		
4. Describe two standards relevant to programming languages in general.		
5. List two methods that can be used to test scripts within a website.		
6. Describe the purpose of extensible markup language.		
7. Describe unified modelling language (UML).		
8. Give an example of a software that can be used for creating XML documents.		
9. List two standards that impact XML programming and how.		
10. Describe the software development life cycle and its relevance to design methodologies.		
11. Explain the term document type definition (DTD).		
12. Describe the required XML document components.		
13. List two debugging methods that can be used for XML.		

14. Describe the process for XML document validation.	
15. Describe the testing process that can be used for XML documents.	

Task B – Perform requirements analysis on the website and xml document	
Did you perform the following on your requirements analysis report?	Y ✓
Outline the client requirements for the website based on your initial review of the documentation.	
Outline the procedures you need to follow to produce websites that includes include language in which the website is to be developed and cyber security procedures and protocols to be followed in relation to website development.	
Write down your questions and your client's response to address the questions?	
Outline the client requirements for the website based on your meeting with the client.	
Identify: <ul style="list-style-type: none"> One applicable legislation and its relevance to XML document development Two applicable standards and its relevance to XML document development 	
Outline the procedures that you will follow to develop your XML documents	
Describe the two XML documents you are going to design and develop, including: <ul style="list-style-type: none"> purpose expectations for the document required functionality. 	
Document the design methodology that you will use for your XML documents. Explain how the methodology will incorporate iterative development.	
For each XML document, define the: <ul style="list-style-type: none"> entities elements attributes (if necessary) 	

Task C – Design the website and xml document	
Did you perform the following?	Y ✓
<i>Design the website based on the client's requirements using wireframe or mock-up.</i>	
<i>Provide a diagram of the tree structure for each XML document</i>	

Task D – Develop the website and xml document	
Did you:	Y ✓
<i>Create the website and xml documents based on the customer requirements?</i>	
<i>Host the website?</i>	

Task E – Test the website and xml document functionality and security	
Did you:	Y ✓
<i>Test the website in order to:</i> <ul style="list-style-type: none"> • <i>Determine that the website performs all the required functionality</i> • <i>Check that the website is secure and bug free</i> 	
<i>Describe the testing process you followed to ensure that:</i> <ul style="list-style-type: none"> • <i>The website is functional</i> • <i>The website is functional after the change you made</i> 	

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<ul style="list-style-type: none"> The website complies with cyber security procedures. Describe how you follow the procedures. 	
Test both of your XML documents offline to check if they are working on two different browsers.	
Describe the testing process you undertook and paste the screenshots below.	
Test that data from xml documents appear in menu and contact page on laptop and mobile phone.	
Test both of your XML documents online to check if they are working	

Task F – Feedback	
Did you:	Y ✓
Send an email to your systems analyst asking for approval of your website that includes: <ul style="list-style-type: none"> link to your website Link to both of your xml and dtd documents 	
Fix the XML and DTD errors	