Manual Testing Procedures

Custom eXeLearning iDevices

Project: Learning Platform Enhancements

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Contents

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1.0 Purpose

This document outlines the manual testing strategy for verifying the functional integrity, usability, and SCORM completion status updates of custom-build iDevices developed for eXeLearning. These iDevices are exported from eXeLearning as SCORM packages and embedded into the client's TalentLMS. Manual testing is necessary due to the customized implementation and unique runtime environments.

2.0 Scope

This manual testing procedure applies to the following custom built iDevices:

- Complete the Code
- Drag and Drop
- Find the Error
- Code Display Block
- Code Formatting Activity
- Finish Button
- Next Page Button
- Previous and Finish Button
- Previous and Next Button

Testing covers:

- Editing mode in the eXeLearning authoring tool (LMS Author View).
- Export mode in published SCORM packages embedded within the TalentLMS. (Learner View).

3.0 Preconditions for Manual Testing

Before beginning manual testing, the following conditions must be met to ensure consistency and reliability across all test cases:

1. **eXeLearning Setup**
    - eXeLearning must be downloaded and installed using the installable version (not portable or ready to run).
    - You must have administrator rights on the test machine to edit and save files to protected directories (e.g., Program Files).
    - Verify permissions for writing to installation directories (e.g., C:\Program Files (x86)\exe\scripts\idevices).

    - Clear the application cache stored in APPDATA\eXe to remove legacy data and avoid version conflicts.
    - Restart eXeLearning after clearing cache and making any plugin modifications to ensure changes take effect.

2. **Custom iDevice Deployment**
    - The custom iDevice folder must be placed in the correct scripts/idevices directory within the eXeLearning installation path.
    - Restart eXeLearning to confirm that the new iDevice appears in the editor.
3. **SCORM API Integration**
    - The modified SCOFunctions.js should be updated in the correct scripts directory within the eXeLearning installation path (e.g. C:\Program Files (x86)\exe\scripts).
    - Ensure the functions finishCourse(), unloadPage(), goBack(), and goForward() are implemented as specified in Appendix A.
    - After copying the updated file, restart eXeLearning and clear the application cache in (APPDATA\exe).
4. **SCORM Export**
    - Export the iDevice project as a SCORM 1.2 package from eXeLearning.
5. **LMS Environment Setup**
    - TalentLMS instance must be accessible and functional.
    - A test course should be prepared to host the SCORM package, with the package uploaded and embedded (not using pop-ups).
6. **LMS Monitoring Access**
    - Tester must have access to LMS progress tracking or reporting tools to verify SCORM completion status.

4.0 Reusable Test Case Template

Field	**Description**
Test Case ID	Unique identifier for the test case (e.g., TC-DD-001 for Drag and Drop)
iDevice Name	Name of the iDevice being tested

Test Objective	What the test aims to verify
Preconditions Met	Any necessary setup before beginning the test
Test Steps	Step-by-step actions to perform in both editing and SCORM-published contexts
Expected Outcome	The anticipated result for each step
SCORM Validation	Confirm SCORM completion status updates in LMS

4.1 Pass/Fail Log Table

Step	Expected Result	Pass/Fail	Notes
1			
2			
3			
4			

4.2 QA Sign-off

Tester Name	Date	iDevice Tested	Status	Comments

5.0 Test Case: Complete the Code

Field	**Example**
Test Case ID	TC-CC-001
iDevice Name	Complete the Code
Test Objective	Validate blank parsing, input validation, and SCORM completion trigger.
Preconditions Met	Yes - All items in Section 3 confirmed: correct installation, integration, export, and LMS setup completed
Test Steps	1. Open eXeLearning and insert the 'Complete the Code' iDevice. 2. Enter a code snippet using [[ ]] to define blanks.

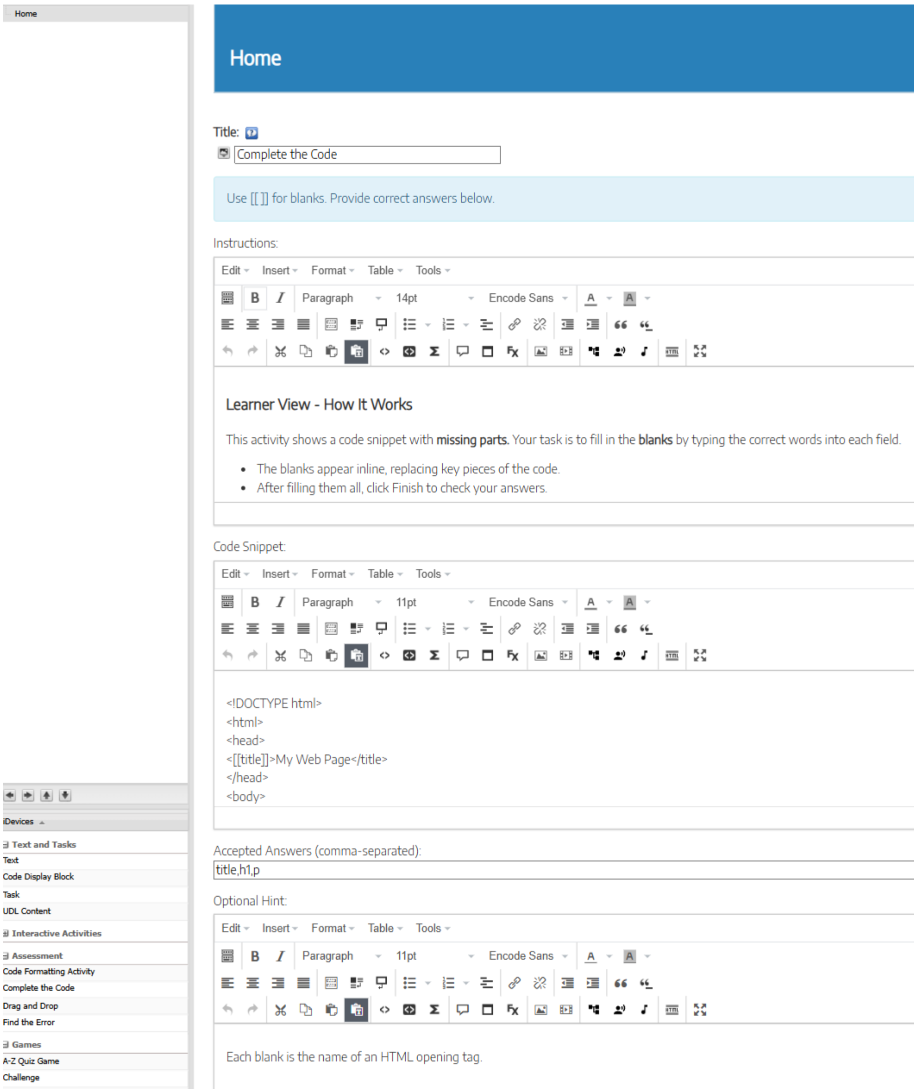
	3. Fill in correct answers (comma separated) and optional instructions/ hint. 3. Export the SCORM 1.2 package. 4. Upload to a prepared TalentLMS course (embedded view). 5. Access the activity as a learner and attempt to fill in blanks. 6. Click "Finish" to submit answers.
Expected Outcome	• Code block renders with text inputs at each blank. • Correct/incorrect inputs are visually indicated. • On correct submission, SCORM finishCourse() function is triggered and marks the module as completed. • Completion status shows as "Completed" in LMS tracking.
SCORM Validation	Verify that TalentLMS records the activity as "Completed" in the user's progress log.

5.1 Pass/Fail Log Table

Step	**Expected Result**	**Pass/ Fail**	**Notes**	**Screenshot Reference**
1	iDevice renders with blank input fields	Pass	Authoring UI Loads	SS1
2	Editor accepts code snippets and answer inputs	Pass	Blanks shown in learner view	SS1, SS3
3	SCORM export completes without error	Pass	No errors	SS2
4	Inputs visible and interactive in LMS	Pass	Blanks appear inside code block, accepts learner input, responsive	SS3
5	Correct answers show confirmation, incorrect flagged.	Pass	Correct answers boxes highlighted green, red for incorrect.	SS3
6	Completion triggers SCORM finishCourse()	Pass	Verified in LMS	SS4

5.2 Screenshot Evidence

SS1 - Authoring View: Shows the eXeLearning authoring interface with code, instructions, hints, and answers.



Title: Complete the Code

Use [[ ]] for blanks. Provide correct answers below.

Instructions:

Learner View - How It Works

This activity shows a code snippet with **missing parts.** Your task is to fill in the **blanks** by typing the correct words into each field.

- The blanks appear inline, replacing key pieces of the code.
- After filling them all, click Finish to check your answers.

Code Snippet:

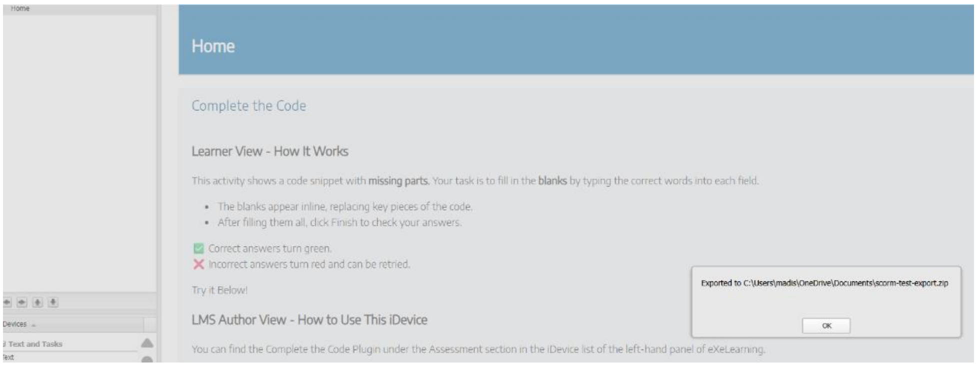
```
<!DOCTYPE html>
<html>
<head>
<[[title]]>My Web Page</title>
</head>
<body>
```

Accepted Answers (comma-separated): title,h1,p

Optional Hint:

Each blank is the name of an HTML opening tag.

SS2 - SCORM Export: Confirmation message showing SCORM package exported.



Complete the Code

Learner View - How It Works

This activity shows a code snippet with **missing parts.** Your task is to fill in the **blanks** by typing the correct words into each field.

- The blanks appear inline, replacing key pieces of the code.
- After filling them all, click Finish to check your answers.

✅ Correct answers turn green.
❌ Incorrect answers turn red and can be retried.

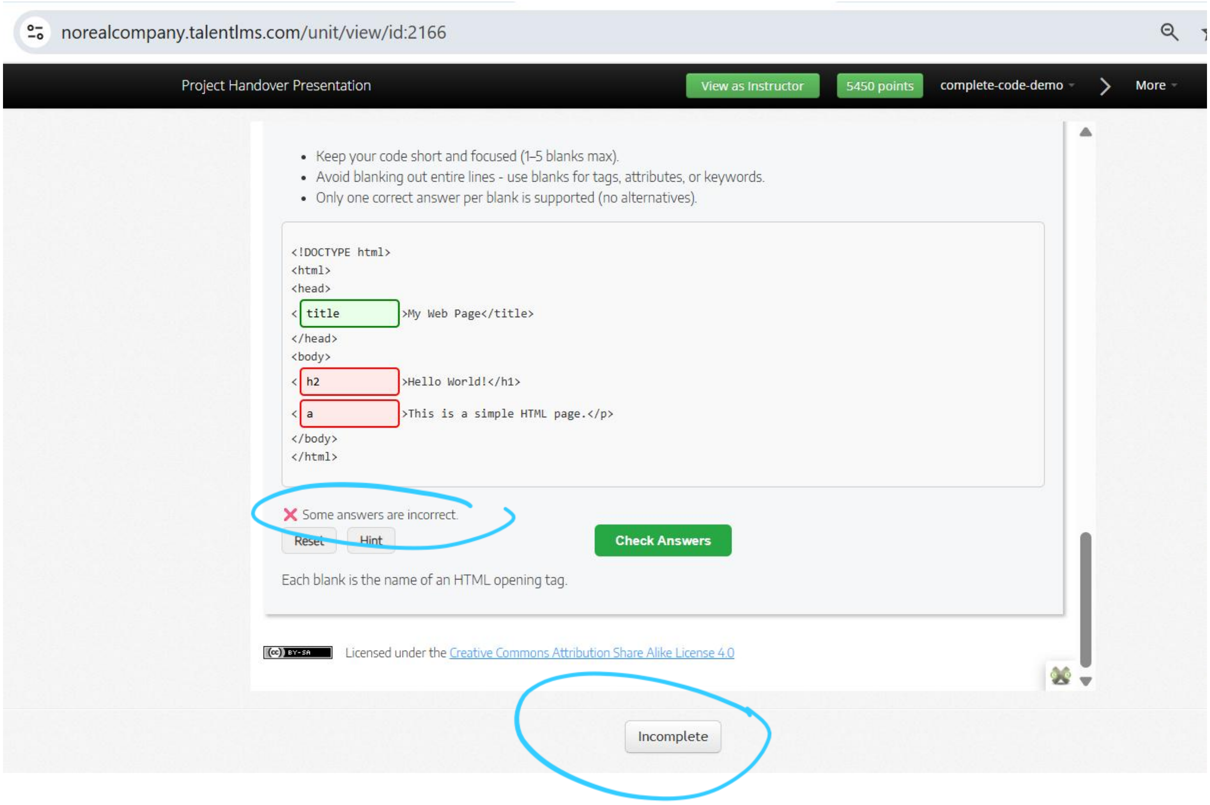
Try it Below!

LMS Author View - How to Use This iDevice

You can find the Complete the Code Plugin under the Assessment section in the iDevice list of the left-hand panel of eXeLearning.

Exported to C:\Users\madis\OneDrive\Documents\scorm-test-export.zip

SS3 - Learner Interaction: Learner filling in blanks on TalentLMS, with feedback shown.



- Keep your code short and focused (1–5 blanks max).
- Avoid blanking out entire lines - use blanks for tags, attributes, or keywords.
- Only one correct answer per blank is supported (no alternatives).

```
<!DOCTYPE html>
<html>
<head>
<title>My Web Page</title>
</head>
<body>
<h2>Hello World!</h1>
<a>This is a simple HTML page.</p>
</body>
</html>
```

❌ Some answers are incorrect.

Each blank is the name of an HTML opening tag.

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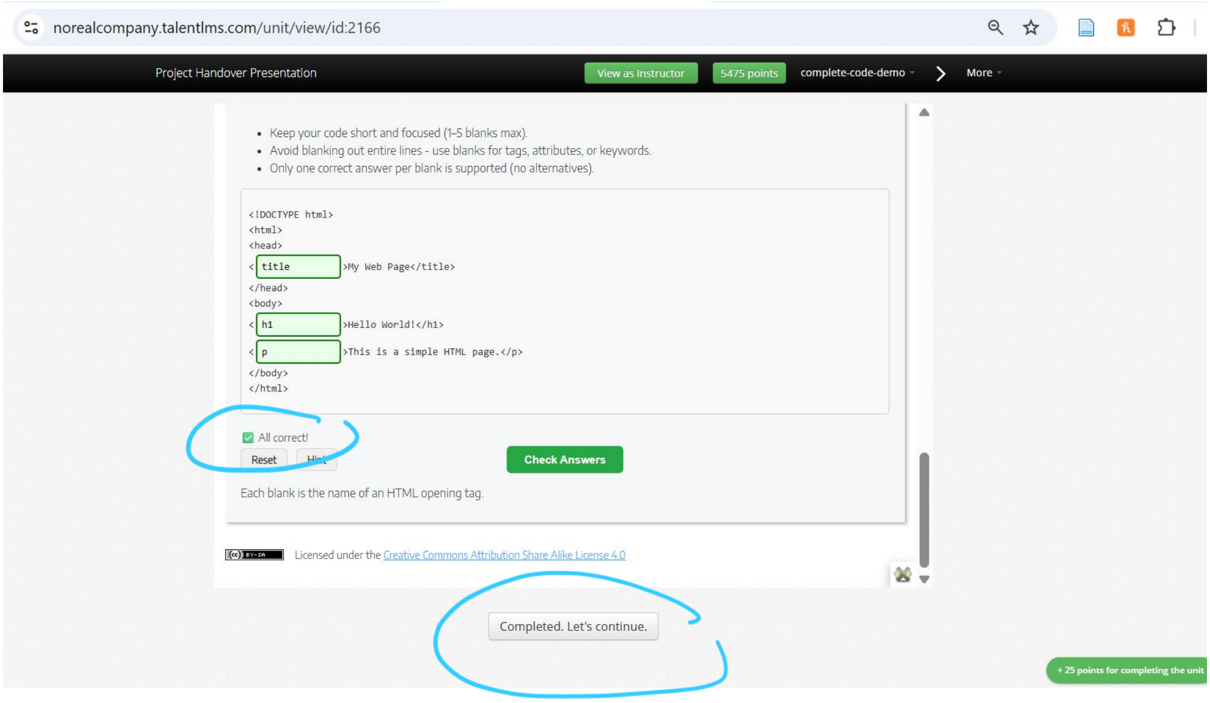
SS4 - SCORM Completion Proof: LMS progress updated from incomplete (SS3) to complete.


norealcompany.talentlms.com/unit/view/id:2166
Project Handover Presentation
View as Instructor
5475 points
complete-code-demo
More
Reset
Hint
Check Answers
Completed. Let's continue.
+ 25 points for completing the unit

- Keep your code short and focused (1–5 blanks max).
- Avoid blanking out entire lines - use blanks for tags, attributes, or keywords.
- Only one correct answer per blank is supported (no alternatives).

```
<!DOCTYPE html>
<html>
<head>
<title>My Web Page</title>
</head>
<body>
<h1>Hello World!</h1>
<p>This is a simple HTML page.</p>
</body>
</html>
```

☑ All correct!

Each blank is the name of an HTML opening tag.

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Comments - fantastic code and design. Would recommend providing examples for the answers separated by commas to avoid confusion on how to properly make the answer work correctly.

Although this code works great I did have to ask the Author of the code on how to make the accepted answers work correctly. In practice works perfectly well, but if i ran into trouble understanding or visualising it without asking for help chances are that someone else will too.

6.0 Test Case: Drag and Drop

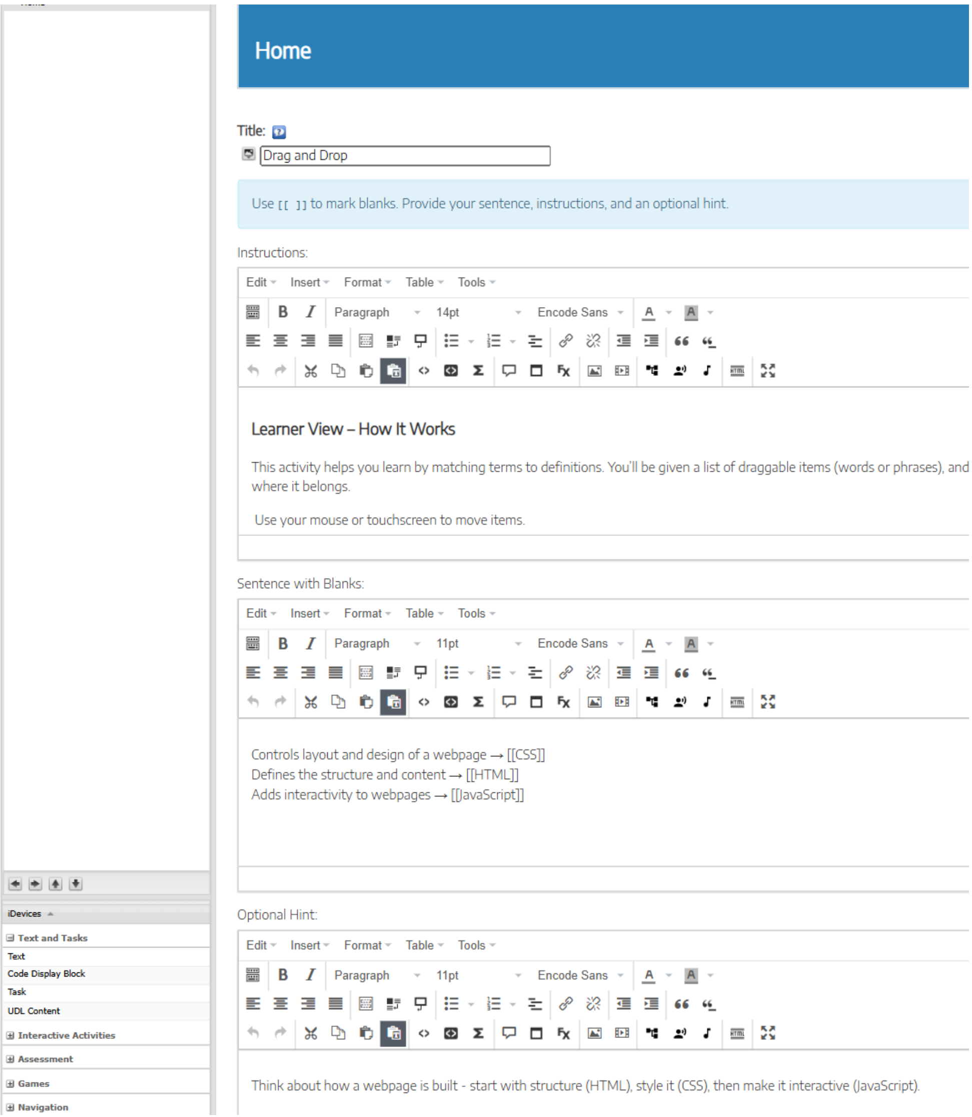
Field	**Example**
Test Case ID	TC-DD-001
iDevice Name	Drag and Drop
Test Objective	Confirm drag-and-drop interaction, feedback, and SCORM tracking
Preconditions Met	Yes - All items in Section 3 confirmed
Test Steps	1. Insert the Drag and Drop iDevice in eXeLearning. 2. Enter a sentence with at least two unique blanks using [[ ]]. 3. Add instructions and an optional hint. 4. Click "Generate Drag and Drop" to preview the interactive layout. 5. Export as a SCORM 1.2 package. 6. Upload the package to TalentLMS (embedded mode). 7. As a learner, drag answers into the blanks and click Submit. 8. If all answers are correct, the SCORM finishCourse() function is triggered
Expected Outcome	• Sentence displays with drop zones in place of each [[ ]]. • Draggable answers appear below and can be dragged into blanks. • "Check Answers" button provides visual feedback: green for correct, red for incorrect. • If all answers are correct, SCORM marks the activity as completed. • Completion status appears as Completed in TalentLMS.
SCORM Validation	Activity marked as "Completed" in LMS.

6.1 Pass/Fail Log Table

Step	Expected Result	Pass/Fail	Notes	Screenshot Reference
1	iDevice renders with input form and buttons	Pass	Authoring UI loads correctly	SS1
2	Editor accepts sentence with valid blanks	Pass	Input sentence with [[ ]] is parsed	SS1
3	"Generate Drag and Drop" renders preview correctly	Pass	Drop zones and draggable words generated	SS1, SS3
4	SCORM export completes without error	Pass	No issues during export	SS2
5	Inputs interactive in LMS	Pass	Words drag into drop zones successfully	SS3
6	Feedback displayed on submission	Pass	Correct answers = green, incorrect = red	SS3
7	SCORM completion triggered if all answers correct	Pass	Completion logged in TalentLMS	SS4

6.2 Screenshot Evidence

SS1 - Authoring View: Shows sentence with [[ ]], instructions and optional hint in eXeLearning.



Title: Drag and Drop

Use [[ ]] to mark blanks. Provide your sentence, instructions, and an optional hint.

Instructions: 14pt

Learner View – How It Works

This activity helps you learn by matching terms to definitions. You'll be given a list of draggable items (words or phrases), and where it belongs.

Use your mouse or touchscreen to move items.

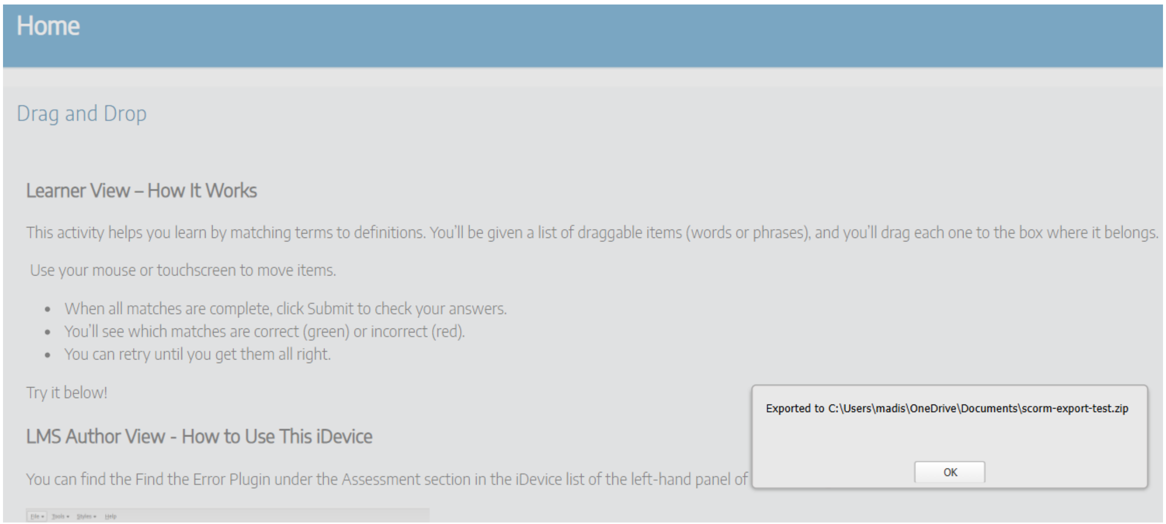
Sentence with Blanks: 11pt

Controls layout and design of a webpage → [[CSS]]
Defines the structure and content → [[HTML]]
Adds interactivity to webpages → [[JavaScript]]

Optional Hint: 11pt

Think about how a webpage is built - start with structure (HTML), style it (CSS), then make it interactive (JavaScript).

SS2 - SCORM Export: Screenshot of SCORM 1.2 export confirmation or zip file.



Drag and Drop

Learner View – How It Works

This activity helps you learn by matching terms to definitions. You'll be given a list of draggable items (words or phrases), and you'll drag each one to the box where it belongs.

Use your mouse or touchscreen to move items.

- When all matches are complete, click Submit to check your answers.
- You'll see which matches are correct (green) or incorrect (red).
- You can retry until you get them all right.

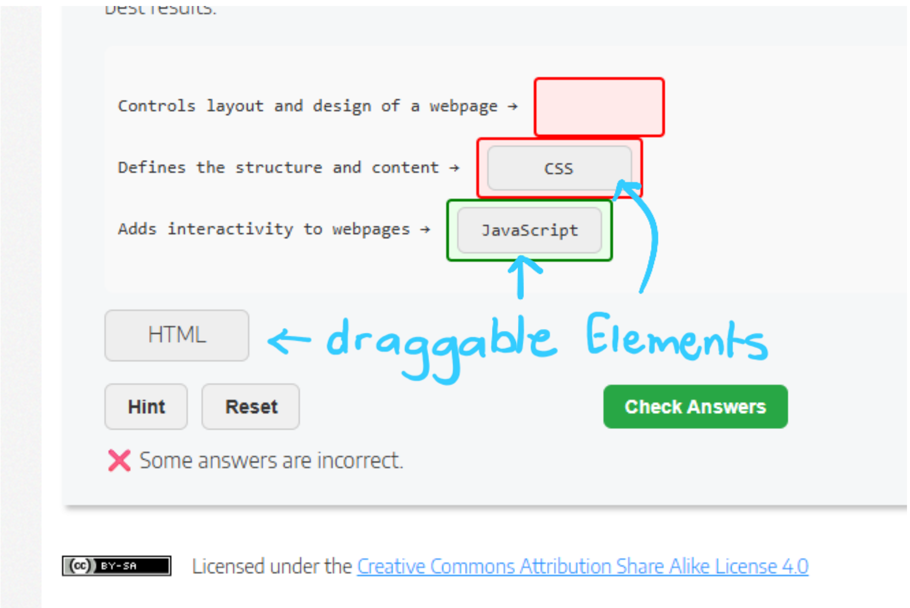
Try it below!

LMS Author View - How to Use This iDevice

You can find the Find the Error Plugin under the Assessment section in the iDevice list of the left-hand panel of

Exported to C:\Users\madis\OneDrive\Documents\scorm-export-test.zip

SS3 - Learner Interaction: Screenshot of learner dragging words into drop zones and submitting activity.


best results.

```
Controls layout and design of a webpage →
Defines the structure and content → CSS
Adds interactivity to webpages → JavaScript
```

✕ Some answers are incorrect.

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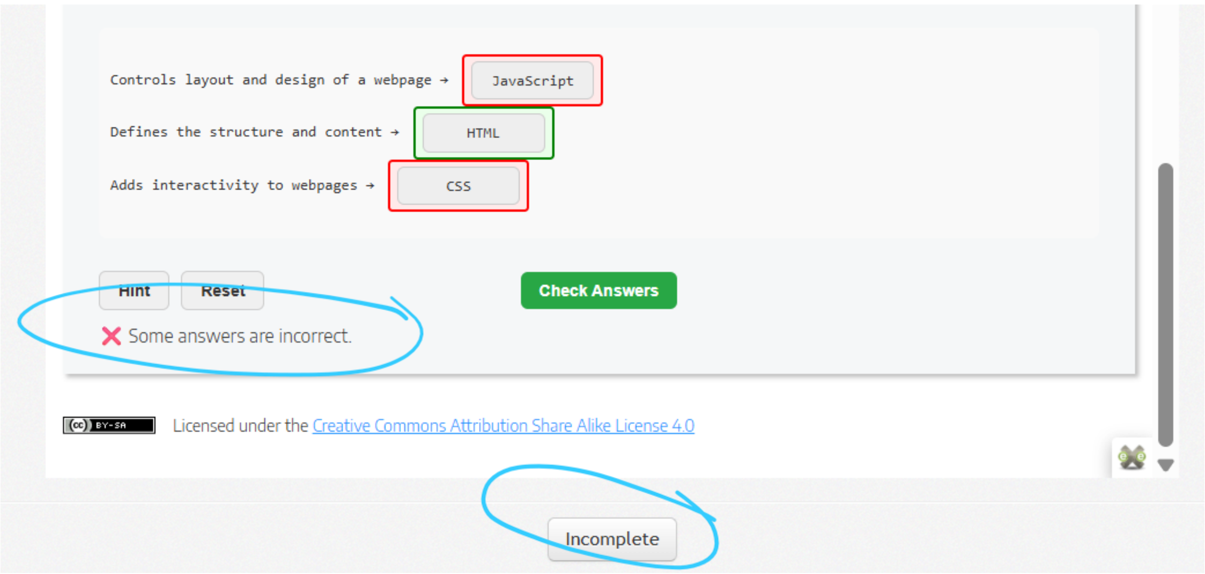

```
Controls layout and design of a webpage → JavaScript
Defines the structure and content → HTML
Adds interactivity to webpages → CSS
```

✕ Some answers are incorrect.

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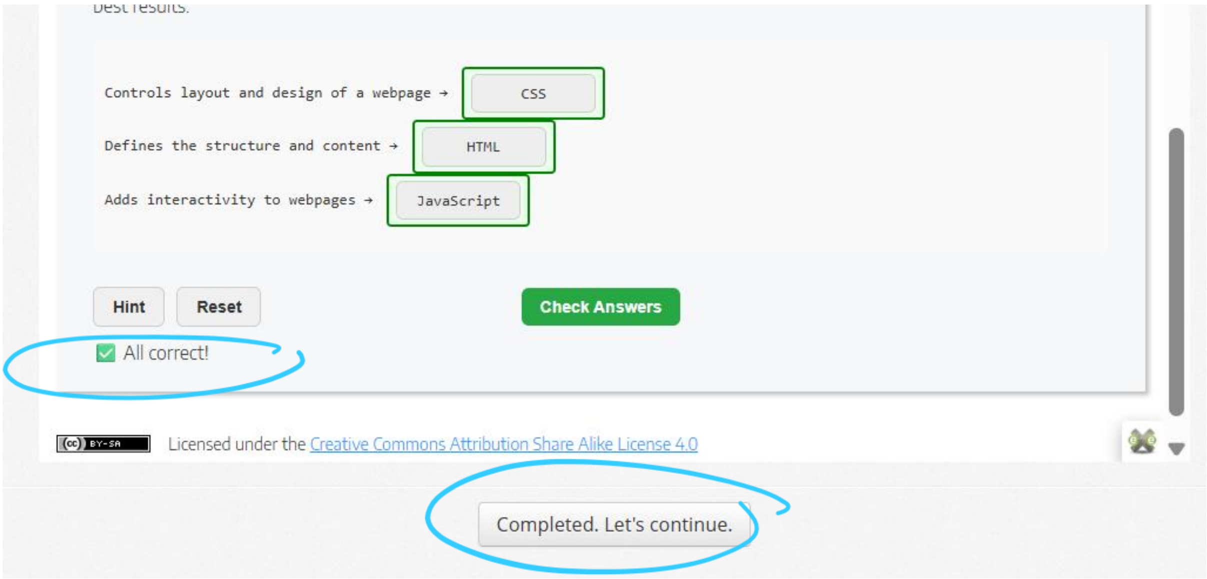
SS4 - SCORM Completion Proof: TalentLMS progress report showing module marked as *Completed* after successful interaction.



best results.

Controls layout and design of a webpage → CSS

Defines the structure and content → HTML

Adds interactivity to webpages → JavaScript

☑ All correct!

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7.0 Test Case: Find the Error

Field	**Example**
Test Case ID	TC-FE-001
iDevice Name	Find the Error
Test Objective	Verify code line rendering, correct line selection, user feedback, and SCORM completion trigger.
Preconditions Met	Yes - All items in Section 3 confirmed: correct installation, integration, export, and LMS setup completed
Test Steps	1. Insert the Find the Error iDevice in eXeLearning. 2. Paste a code snippet into the Code Block field. 3. Enter the line number (starting from 0) that contains the error. 4. Add instructions and an optional hint. 5. Export as a SCORM 1.2 package. 6. Upload the package to TalentLMS (embedded mode). 7. As a learner, click a line to select it, then click Submit. 8. If the correct line is selected, the SCORM finishCourse() function is triggered.
Expected Outcome	• Code block is rendered with selectable lines. • Learner can select and highlight a single line. • "Submit" provides feedback: green for correct, red for incorrect. • SCORM completion is only triggered when the correct line is

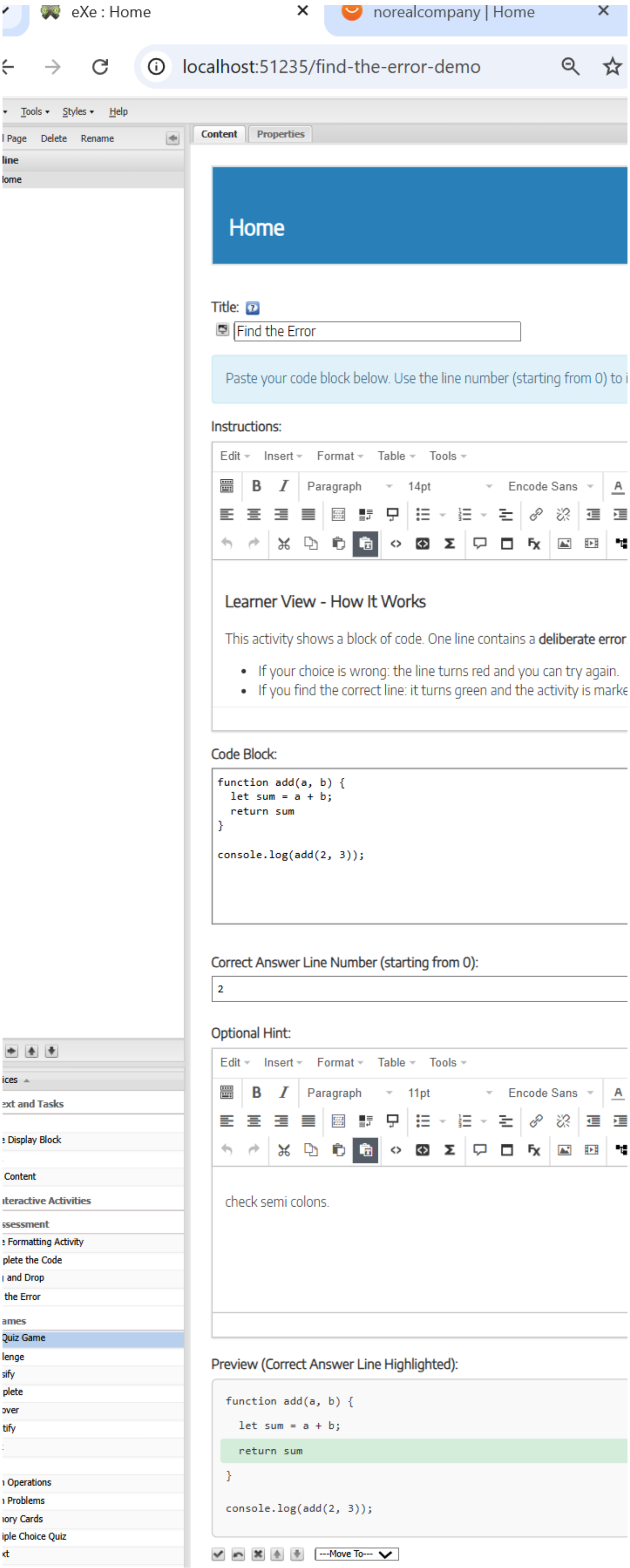
	selected. • Completion status shows as Completed in LMS.
SCORM Validation	Verify that TalentLMS records the activity as Completed in the learner's progress report after correct submission.

7.1 Pass/Fail Log Table

Step	Expected Result	Pass/Fail	Notes	Screenshot Reference
1	iDevice renders with code input fields	Pass	Authoring UI loads	SS1
2	Editor accepts code block and correct line number	Pass	Preview shows highlighted correct line	SS1
3	SCORM export completes without error	Pass	No issues during export	SS2
4	Code block displays with clickable lines	Pass	Learner can select lines	SS3
5	Feedback shown after submission	Pass	Green = correct, Red = incorrect	SS3
6	SCORM completion triggered when correct line selected	Pass	Verified in TalentLMS	SS4

7.2 Screenshot Evidence

SS1 - Authoring View: Shows code snippet, correct line number input, and preview with correct line highlighted.



Home

Title: Find the Error

Paste your code block below. Use the line number (starting from 0) to i

Instructions:

Learner View - How It Works

This activity shows a block of code. One line contains a **deliberate error**

- If your choice is wrong: the line turns red and you can try again.
- If you find the correct line: it turns green and the activity is marke

Code Block:

```
function add(a, b) {
  let sum = a + b;
  return sum
}

console.log(add(2, 3));
```

Correct Answer Line Number (starting from 0): 2

Optional Hint:

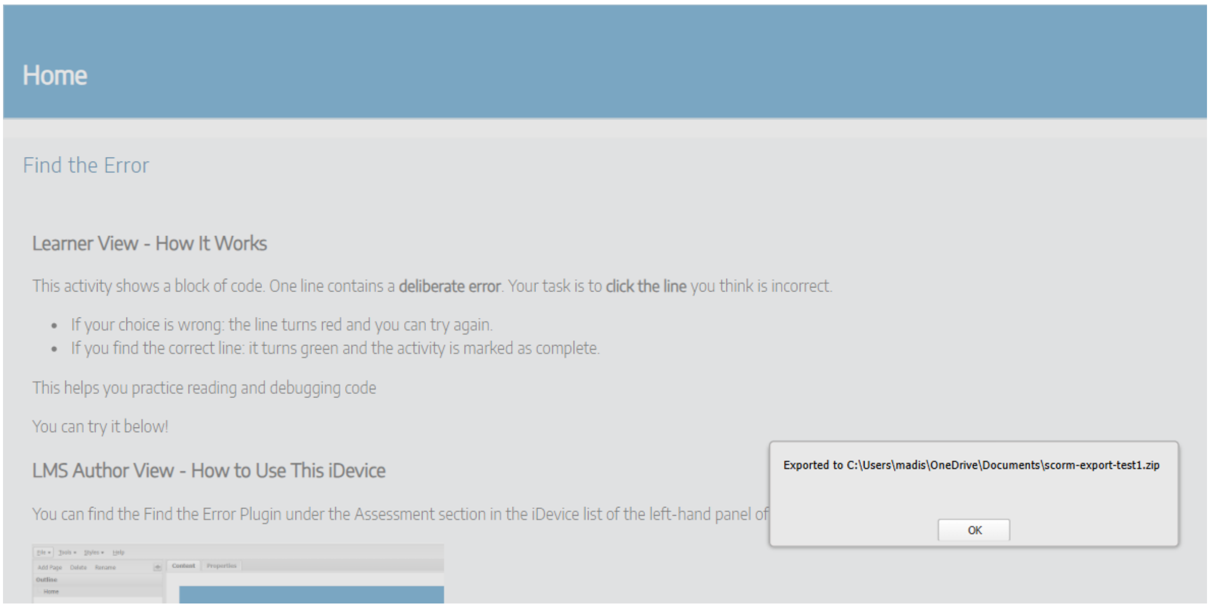
check semi colons.

Preview (Correct Answer Line Highlighted):

```
function add(a, b) {
  let sum = a + b;
  return sum
}

console.log(add(2, 3));
```

SS2 - SCORM Export: Screenshot of SCORM 1.2 export confirmation or resulting zip package.



Home

Find the Error

Learner View - How It Works

This activity shows a block of code. One line contains a **deliberate error**. Your task is to **click the line** you think is incorrect.

- If your choice is wrong: the line turns red and you can try again.
- If you find the correct line: it turns green and the activity is marked as complete.

This helps you practice reading and debugging code

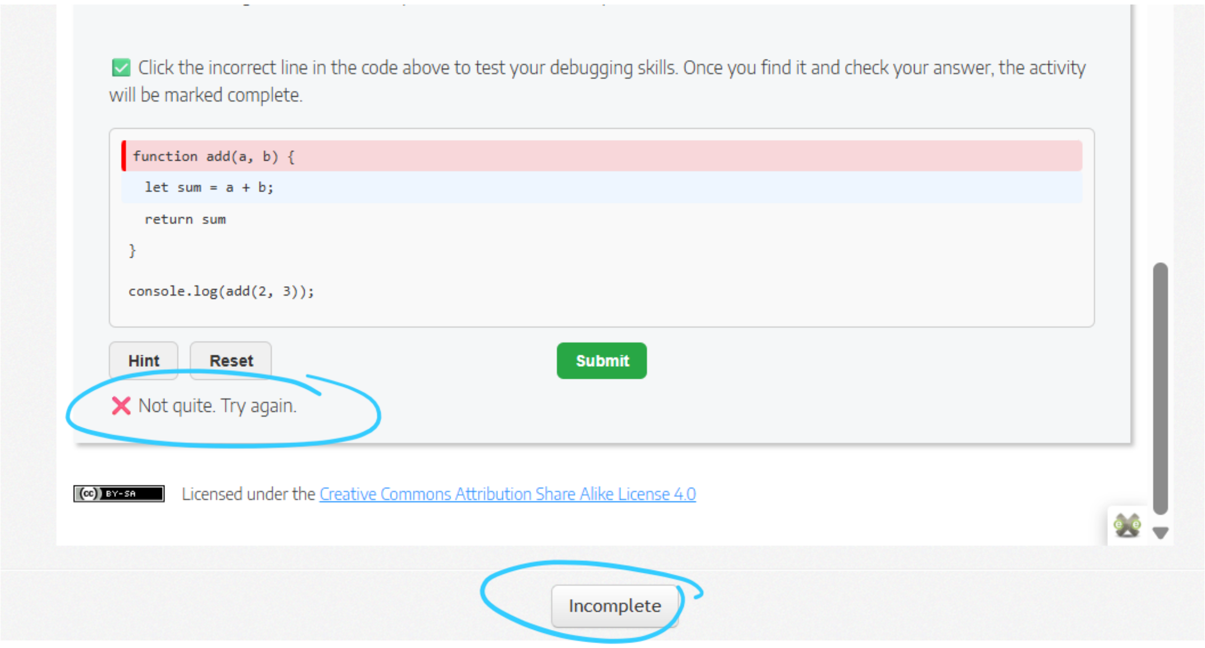
You can try it below!

LMS Author View - How to Use This iDevice

You can find the Find the Error Plugin under the Assessment section in the iDevice list of the left-hand panel of

Exported to C:\Users\madis\OneDrive\Documents\scorm-export-test1.zip

SS3 - Learner Interaction: Learner selecting a line and clicking **Submit**, with feedback shown.

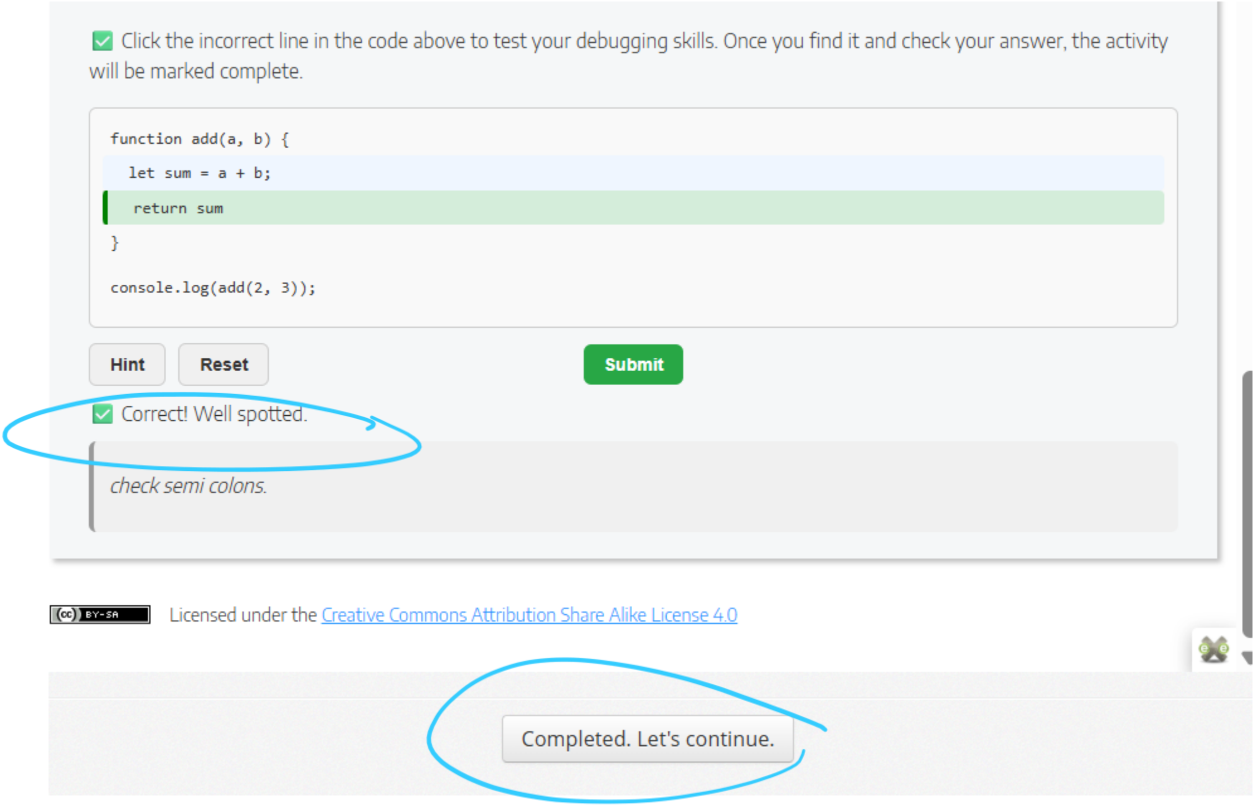


☑ Click the incorrect line in the code above to test your debugging skills. Once you find it and check your answer, the activity will be marked complete.

```
function add(a, b) {
  let sum = a + b;
  return sum
}
console.log(add(2, 3));
```

✕ Not quite. Try again.

SS4 - SCORM Completion Proof: TalentLMS learner progress report showing the activity as **Completed**.



☑ Click the incorrect line in the code above to test your debugging skills. Once you find it and check your answer, the activity will be marked complete.

```
function add(a, b) {
  let sum = a + b;
  return sum
}

console.log(add(2, 3));
```

☑ Correct! Well spotted.

check semi colons.

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Completed. Let's continue.

8.0 Test Case: Code Display Block

Field	**Example**
Test Case ID	TC-CDB-001
iDevice Name	Code Display Block
Test Objective	Confirm that a code snippet can be displayed with syntax highlighting, optional instructions are shown, and SCORM completion is triggered via the "Mark as Done" button.
Preconditions Met	Yes - All items in Section 3 confirmed: correct installation, integration, export, and LMS setup completed
Test Steps	1. Insert the Code Display Block iDevice in eXeLearning. 2. Enter an optional instruction (e.g., “Study the following code example”). 3. Enter a code snippet in the Formatted Code field. 4. Export the package as SCORM 1.2. 5. Upload it to TalentLMS (embedded mode). 6. As a learner, view the formatted code and click Mark as Done.

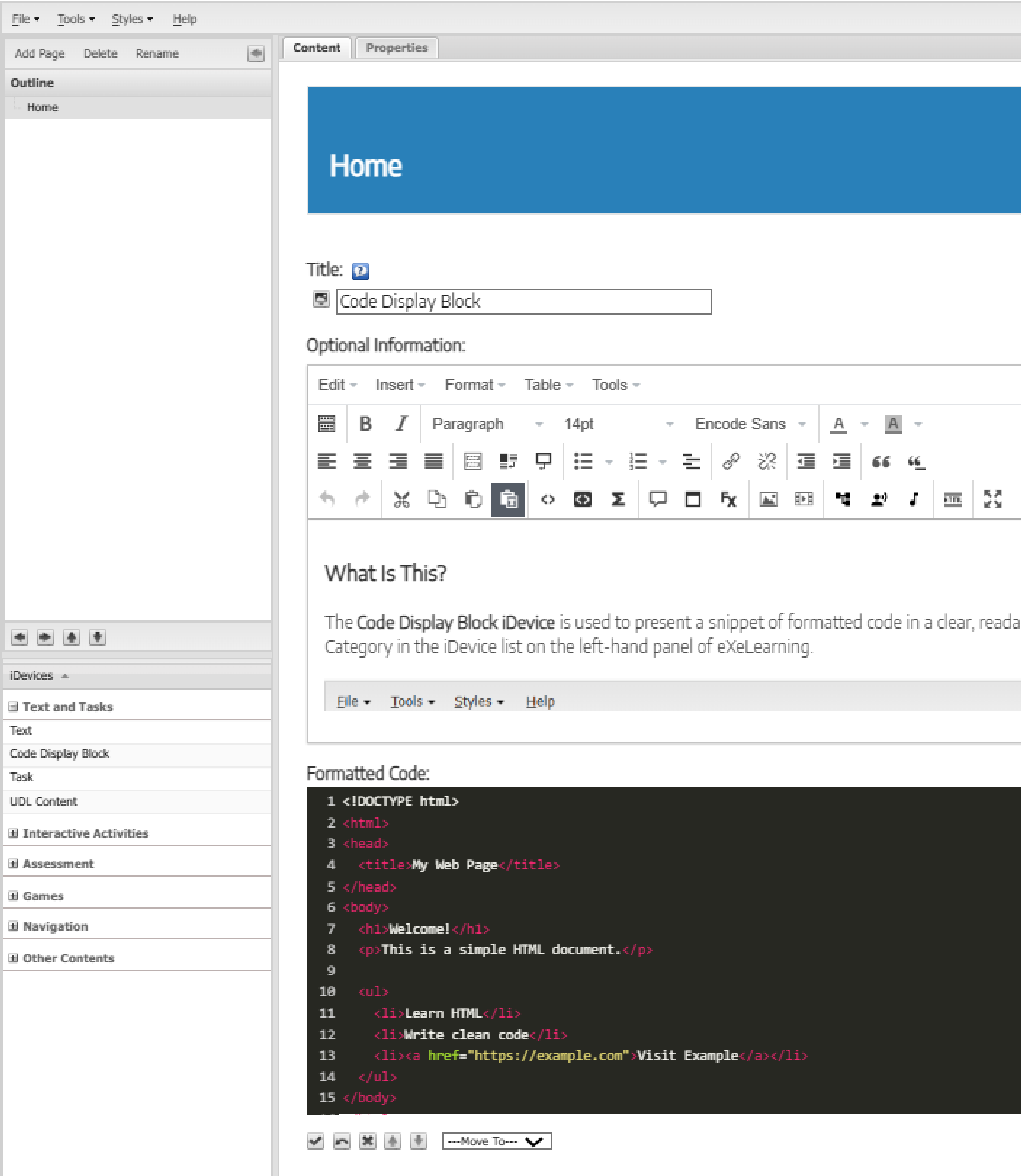
Expected Outcome	• Instructions are shown above the code (if entered). • Code block is syntax-highlighted and read-only. • "Mark as Done" button is visible. • Clicking the button triggers SCORM completion. • Completion status shows as Completed in LMS.
SCORM Validation	Verify that TalentLMS records the activity as Completed in the learner's progress report after the "Mark as Done" button is clicked.

8.1 Pass/Fail Log Table

Step	Expected Result	Pass/Fail	Notes	Screenshot Reference
1	iDevice renders with optional and code input fields	Pass	Authoring UI loads correctly	SS1
2	Editor accepts optional instructions and formatted code	Pass	Preview shows syntax-highlighted code	SS1
3	SCORM export completes without error	Pass	No issues during export	SS2
4	Formatted code and instructions display in LMS	Pass	Read-only code shown with correct formatting	SS3
5	"Mark as Done" button is visible and functional	Pass	Button triggers SCORM finishCourse()	SS3/SS4
6	SCORM completion recorded in LMS	Pass	Verified in TalentLMS progress report	SS4

8.2 Screenshot Evidence

SS1 - Authoring View: Instruction + code entered in eXeLearning, CodeMirror preview visible.



Home

Title: Code Display Block

Optional Information:

What Is This?

The **Code Display Block iDevice** is used to present a snippet of formatted code in a clear, reada
Category in the iDevice list on the left-hand panel of eXeLearning.

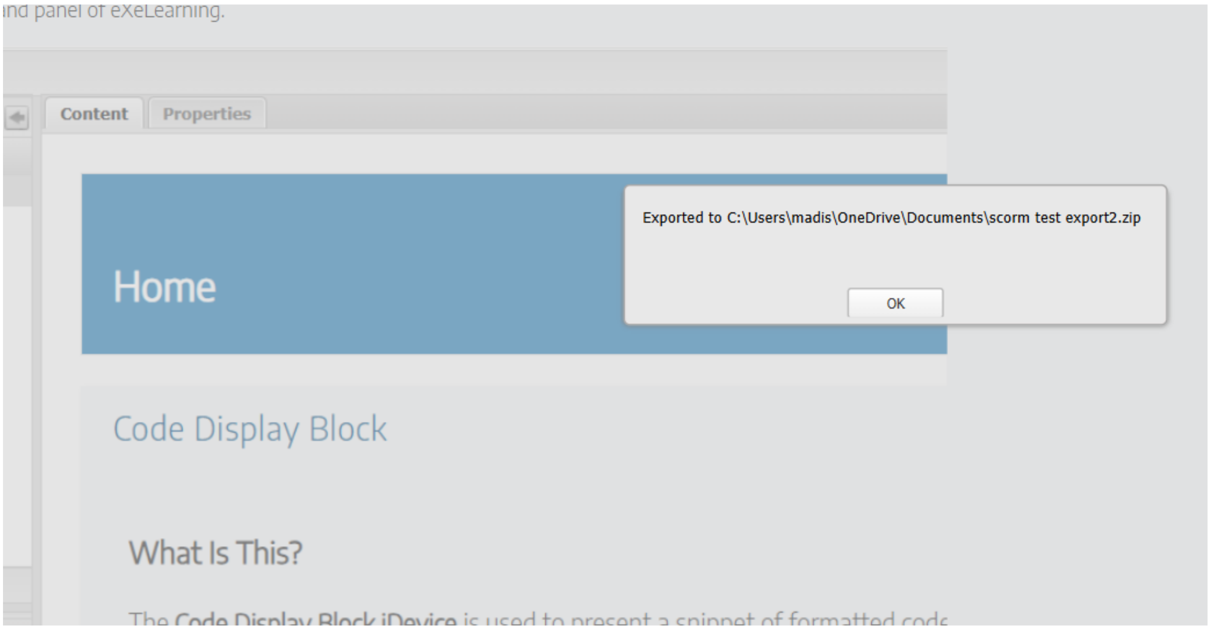
File ▾ Tools ▾ Styles ▾ Help

Formatted Code:

```
<!DOCTYPE html>
<html>
<head>
  <title>My Web Page</title>
</head>
<body>
  <h1>Welcome!</h1>
  <p>This is a simple HTML document.</p>

  <ul>
    <li>Learn HTML</li>
    <li>Write clean code</li>
    <li><a href="https://example.com">Visit Example</a></li>
  </ul>
</body>
```

SS2 - SCORM Export: Screenshot of exported SCORM package confirmation or zip file.



ind panel of eXeLearning.

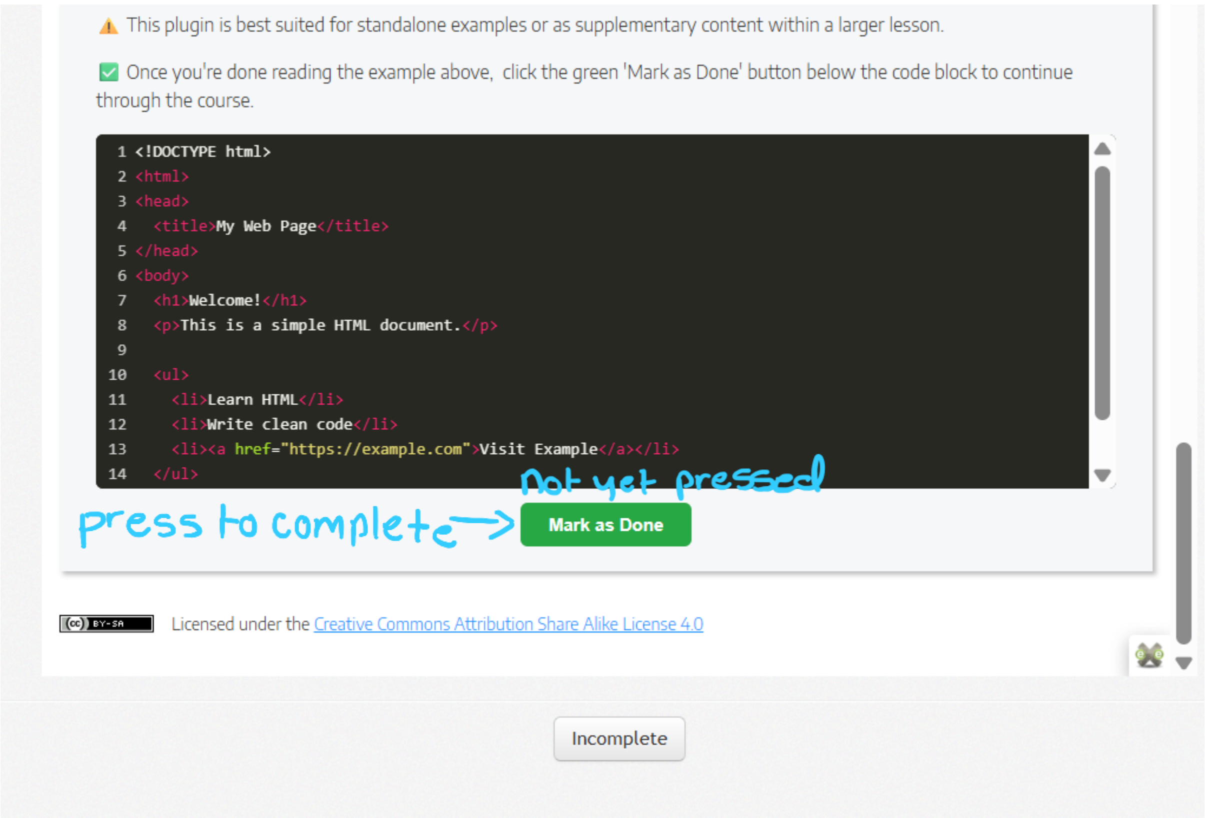
Exported to C:\Users\madis\OneDrive\Documents\scorm test export2.zip

Code Display Block

What Is This?

The Code Display Block iDevice is used to present a snippet of formatted code

SS3 - Learner View: Formatted code displayed with CodeMirror, "Mark as Done" button not yet clicked.



⚠ This plugin is best suited for standalone examples or as supplementary content within a larger lesson.

✅ Once you're done reading the example above, click the green 'Mark as Done' button below the code block to continue through the course.

```
<!DOCTYPE html>
<html>
<head>
  <title>My Web Page</title>
</head>
<body>
  <h1>Welcome!</h1>
  <p>This is a simple HTML document.</p>

  <ul>
    <li>Learn HTML</li>
    <li>Write clean code</li>
    <li><a href="https://example.com">Visit Example</a></li>
  </ul>
```

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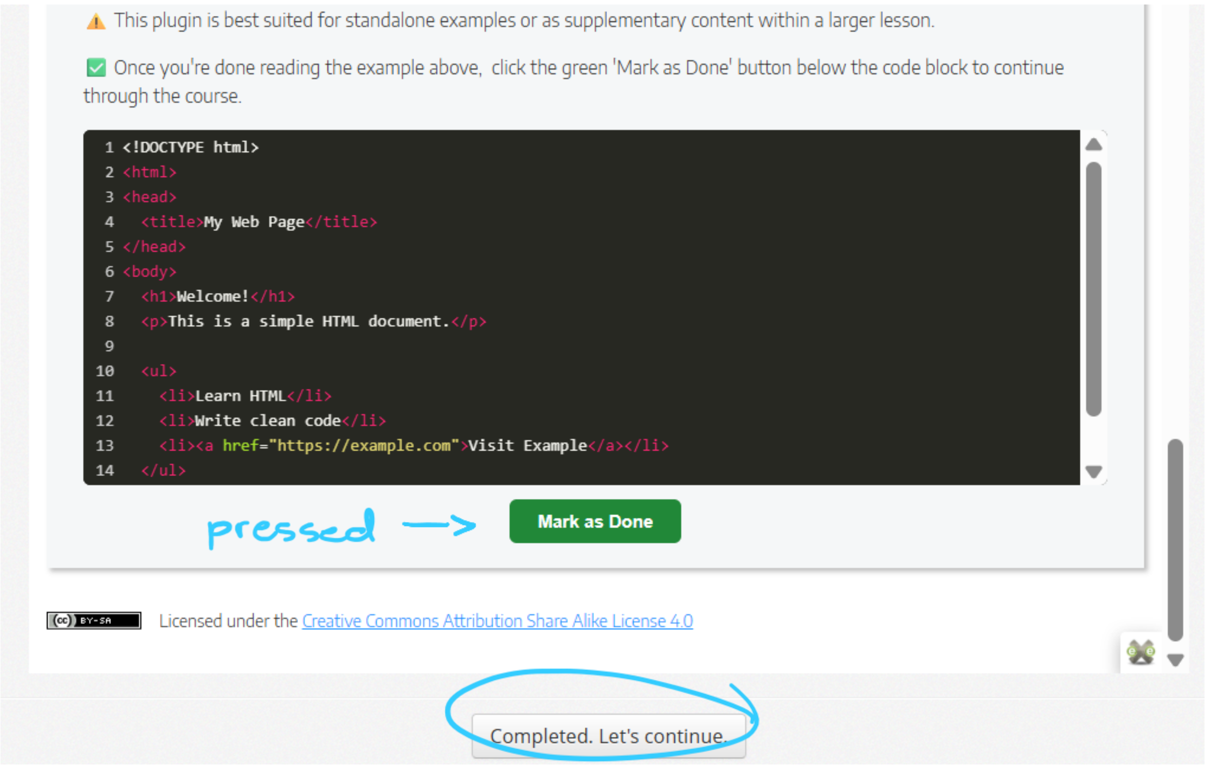
SS4 - SCORM Completion Proof: TalentLMS progress shows the module marked as Completed. (Mark as Done button clicked).



⚠ This plugin is best suited for standalone examples or as supplementary content within a larger lesson.

✅ Once you're done reading the example above, click the green 'Mark as Done' button below the code block to continue through the course.

```html
<!DOCTYPE html>
<html>
<head>
  <title>My Web Page</title>
</head>
<body>
  <h1>Welcome!</h1>
  <p>This is a simple HTML document.</p>

  <ul>
    <li>Learn HTML</li>
    <li>Write clean code</li>
    <li><a href="https://example.com">Visit Example</a></li>
  </ul>
```

pressed ->

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9.0 Test Case: Code Formatting Activity

Field	Example
Test Case ID	TC-CFA-001
iDevice Name	Code Formatting Activity
Test Objective	Verify code block display, learner formatting input, comparison to the correct answer, feedback display, and SCORM completion trigger on correct formatting.
Preconditions Met	Yes - All items in Section 3 confirmed: correct installation, integration, export, and LMS setup completed
Test Steps	1. Insert the Code Formatting Activity iDevice in eXeLearning. 2. Enter an incorrectly formatted code block. 3. Enter the correctly formatted version of the code. 4. Add instructions and an optional hint. 5. Export as a SCORM 1.2 package. 6. Upload the package to TalentLMS (embedded mode). 7. As a learner, reformat the code in the answer editor. 8. Click Check Answers. If formatting matches, SCORM completion is triggered.

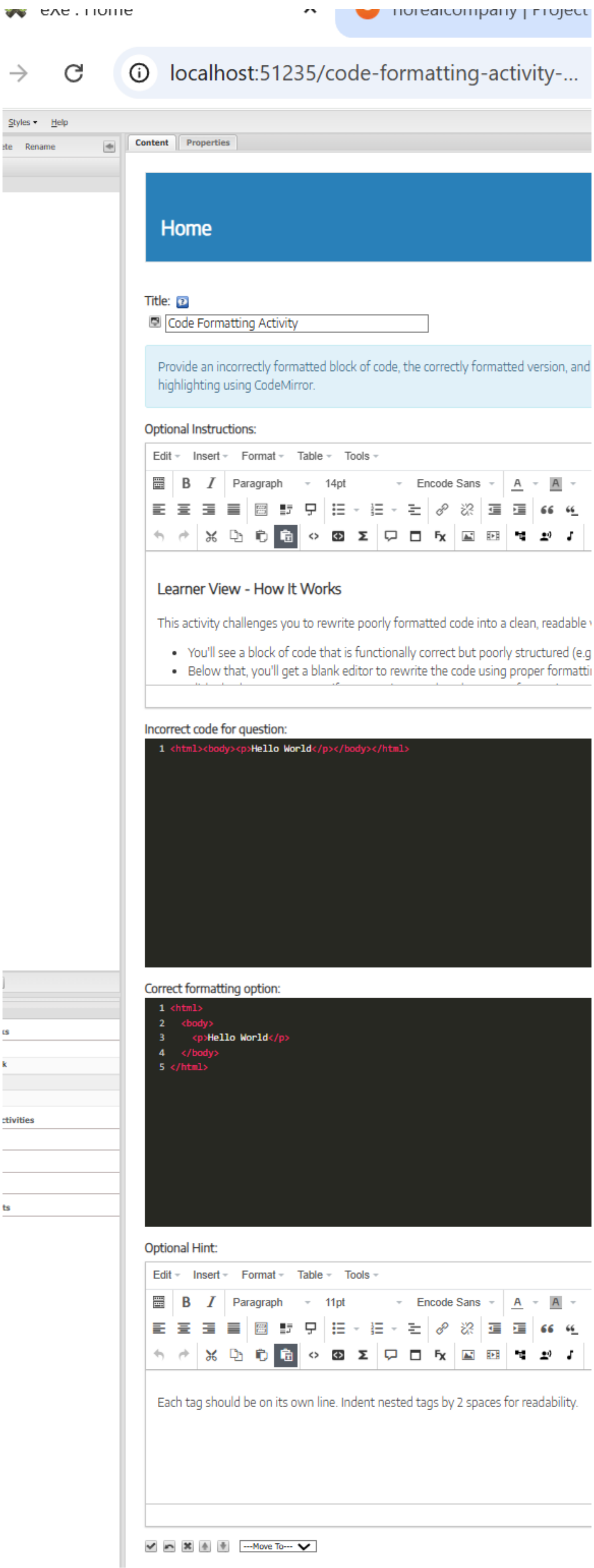
Expected Outcome	• The incorrectly formatted code appears in a read-only block. • Learner can enter a corrected version using CodeMirror. • Check Answers button provides feedback. • On correct formatting match, SCORM marks activity as complete. • Completion status appears as Completed in TalentLMS.
SCORM Validation	Verify that TalentLMS records the activity as Completed after the correct answer is submitted using the Check Answers button.

9.1 Pass/Fail Log Table

Step	Expected Result	Pass/Fail	Notes	Screenshot Reference
1	iDevice renders with input fields and preview	Pass	Authoring interface loads	SS1
2	Editor accepts incorrect and correct code formatting	Pass	Preview generated properly	SS1
3	SCORM export completes without error	Pass	Export successful	SS2
4	Learner view shows code and answer editor	Pass	Interactive editor appears in LMS	SS3
5	Feedback shown after clicking Check Answers	Pass	Green message on match, red on mismatch	SS3
6	SCORM completion recorded when answer is correct	Pass	Verified in TalentLMS progress tracking	SS4

9.2 Screenshot Evidence

SS1 - Authoring View: Instruction, incorrect and correct code entered in eXeLearning preview.



Home

Title:

Code Formatting Activity

Provide an incorrectly formatted block of code, the correctly formatted version, and highlighting using CodeMirror.

Optional Instructions:

Learner View - How It Works

This activity challenges you to rewrite poorly formatted code into a clean, readable

- You'll see a block of code that is functionally correct but poorly structured (e.g
- Below that, you'll get a blank editor to rewrite the code using proper formatti

Incorrect code for question:

```
<html><body><p>Hello World</p></body></html>
```

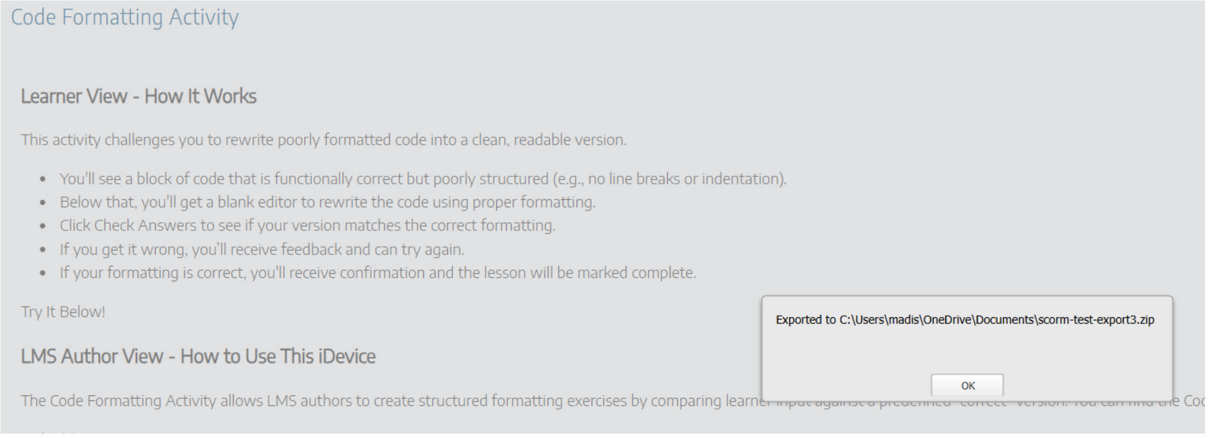
Correct formatting option:

```
<html>
  <body>
    <p>Hello World</p>
  </body>
</html>
```

Optional Hint:

Each tag should be on its own line. Indent nested tags by 2 spaces for readability.

SS2 - SCORM Export: Export confirmation or zip file ready for LMS upload.



Code Formatting Activity

Learner View - How It Works

This activity challenges you to rewrite poorly formatted code into a clean, readable version.

- You'll see a block of code that is functionally correct but poorly structured (e.g., no line breaks or indentation).
- Below that, you'll get a blank editor to rewrite the code using proper formatting.
- Click Check Answers to see if your version matches the correct formatting.
- If you get it wrong, you'll receive feedback and can try again.
- If your formatting is correct, you'll receive confirmation and the lesson will be marked complete.

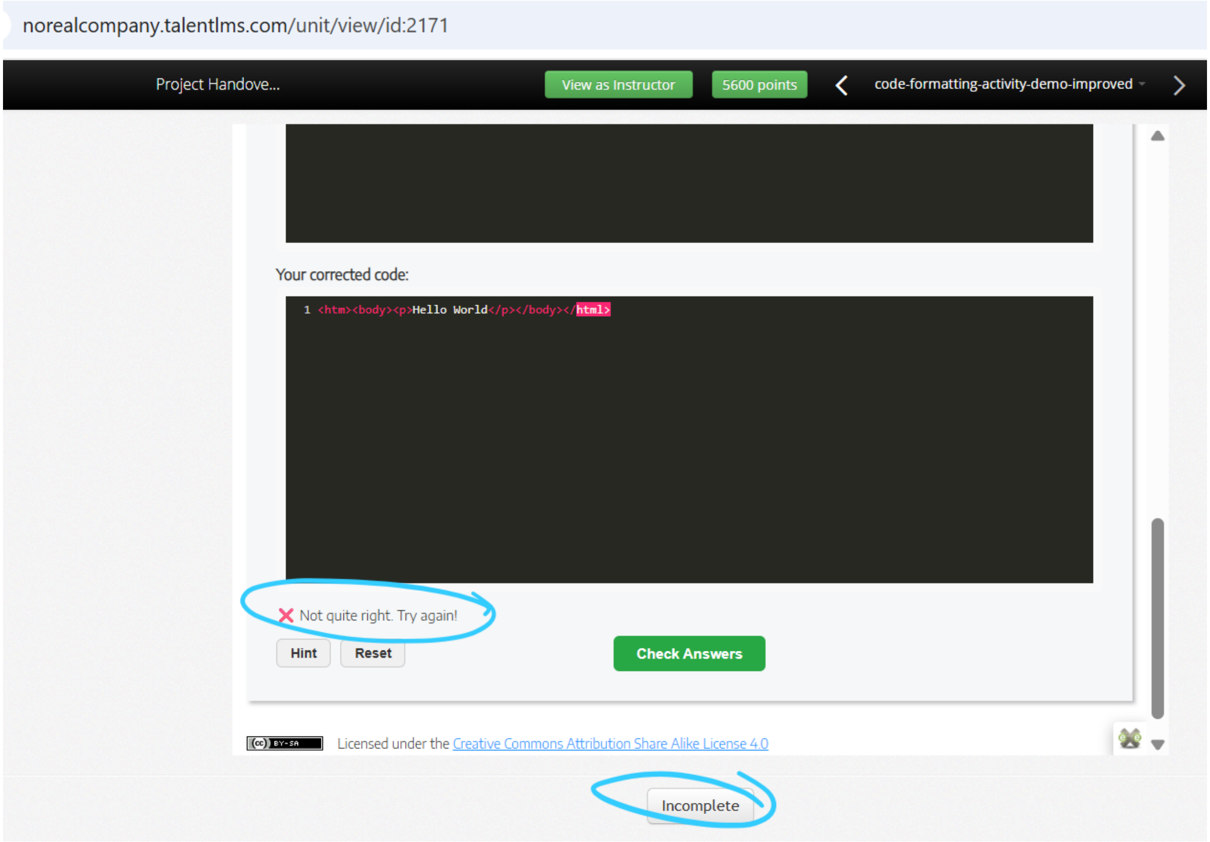
Try It Below!

LMS Author View - How to Use This iDevice

The Code Formatting Activity allows LMS authors to create structured formatting exercises by comparing learner input against a predefined "correct" version. You can find the Coc

Exported to C:\Users\madis\OneDrive\Documents\scorm-test-export3.zip

SS3 - Learner Interaction: Code formatting task shown in TalentLMS with feedback message.



norealcompany.talentlms.com/unit/view/id:2171
Project Handove...
View as Instructor
5600 points
code-formatting-activity-demo-improved

Your corrected code:

```
<htm><body><p>Hello World</p></body></html>
```

✗ Not quite right. Try again!

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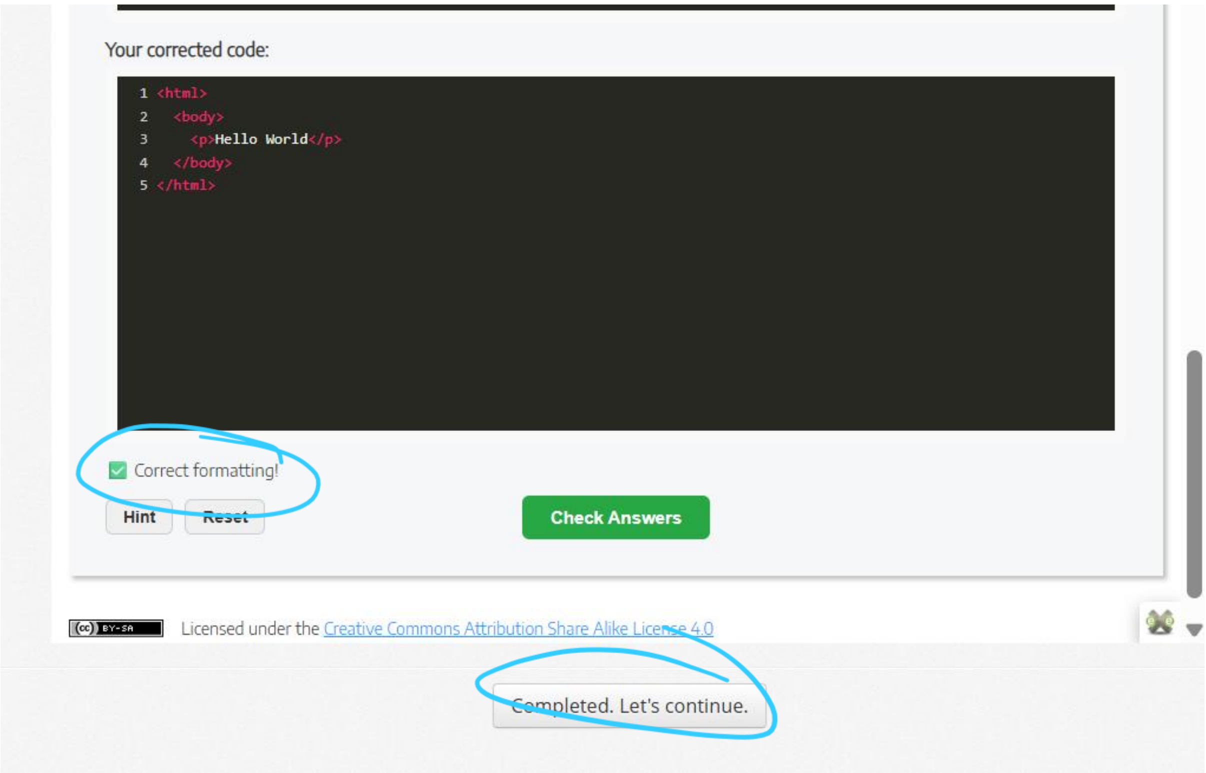
SS4 - SCORM Completion Proof: TalentLMS progress showing activity as **Completed**.



Your corrected code:

```
<html>
  <body>
    <p>Hello World</p>
  </body>
</html>
```

☑ Correct formatting!

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10.0 Test Case: Finish Button

Field	Example
Test Case ID	TC-FB-001
iDevice Name	Finish Button
Test Objective	Validate that clicking the Finish button triggers the SCORM finishCourse() function and marks the activity as complete in TalentLMS.
Preconditions Met	Yes - All items in Section 3 confirmed: correct installation, integration, export, and LMS setup completed
Test Steps	1. Insert the Finish Button iDevice into a page in eXeLearning. 2. Leave the title field blank (automatically cleared). 3. Export the SCORM 1.2 package. 4. Upload the SCORM package to TalentLMS and embed it into a course. 5. As a learner, access the package and click the Finish button.
Expected Outcome	• The Finish button appears centred on the page. • Clicking the button executes the finishCourse() function.

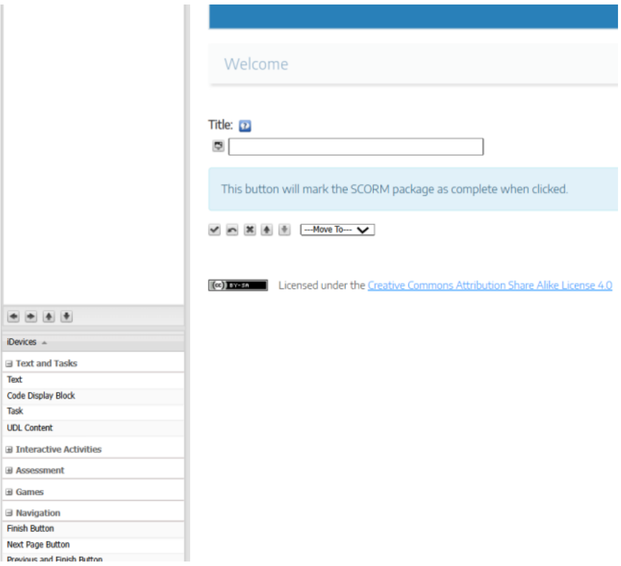
	• SCORM completion and success statuses are set. • Completion status is recorded as Completed in TalentLMS.
SCORM Validation	Verify that TalentLMS marks the activity as Completed after the Finish button is clicked.

10.1 Pass/Fail Log Table

Step	Expected Result	Pass/Fail	Notes	Screenshot Reference
1	iDevice renders with no configuration required	Pass	Authoring interface loads	SS1
2	SCORM export completes without error	Pass	Export successful	SS2
3	Finish button displays in learner view	Pass	Visible and styled correctly	SS3
4	Clicking Finish triggers finishCourse()	Pass	Tracked using developer tools (optional)	SS4
5	Completion status shown in LMS	Pass	Verified in TalentLMS progress	SS4

10.2 Screenshot Evidence

SS1 - Authoring View: iDevice inserted with auto-cleared title, preview showing button.



This button will mark the SCORM package as complete when clicked.

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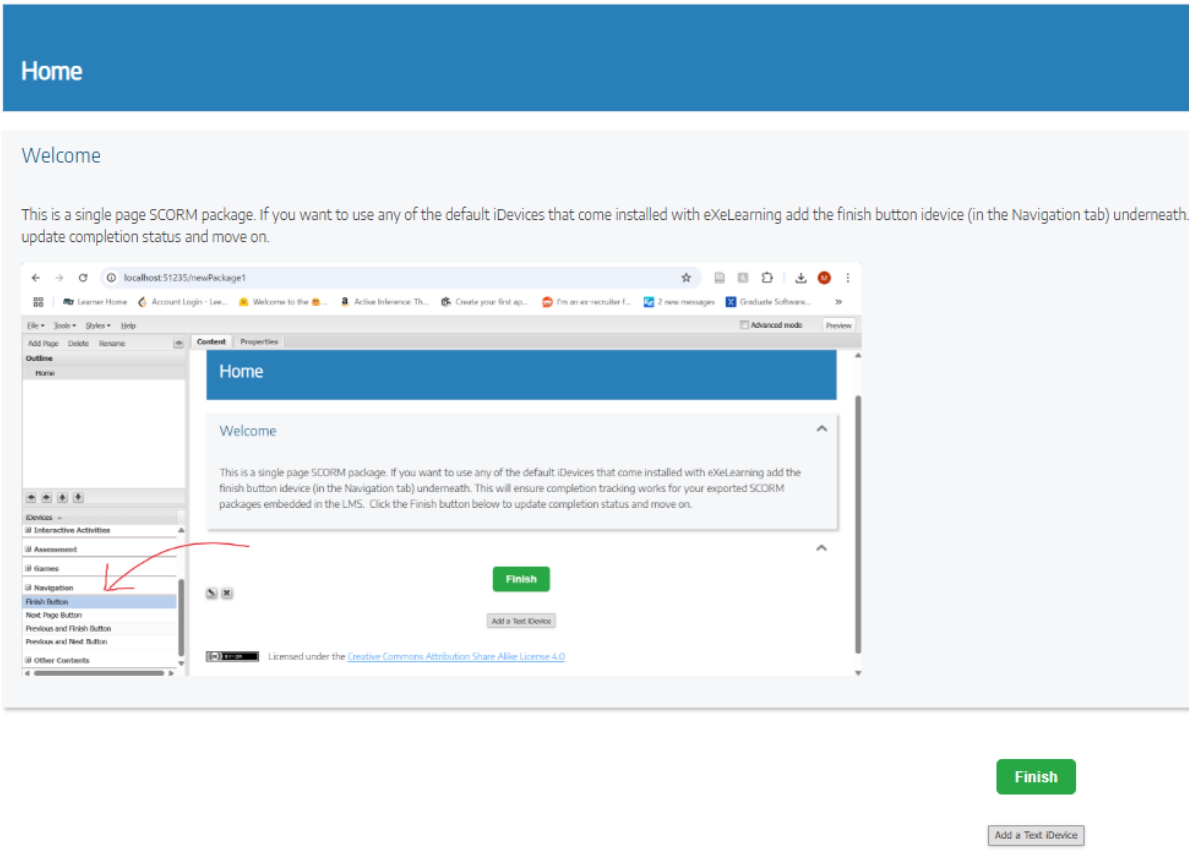

Home

Welcome

This is a single page SCORM package. If you want to use any of the default iDevices that come installed with eXeLearning add the finish button idevice (in the Navigation tab) underneath. update completion status and move on.

localhost:51235/newPackage1

Home

Welcome

This is a single page SCORM package. If you want to use any of the default iDevices that come installed with eXeLearning add the finish button idevice (in the Navigation tab) underneath. This will ensure completion tracking works for your exported SCORM packages embedded in the LMS. Click the Finish button below to update completion status and move on.

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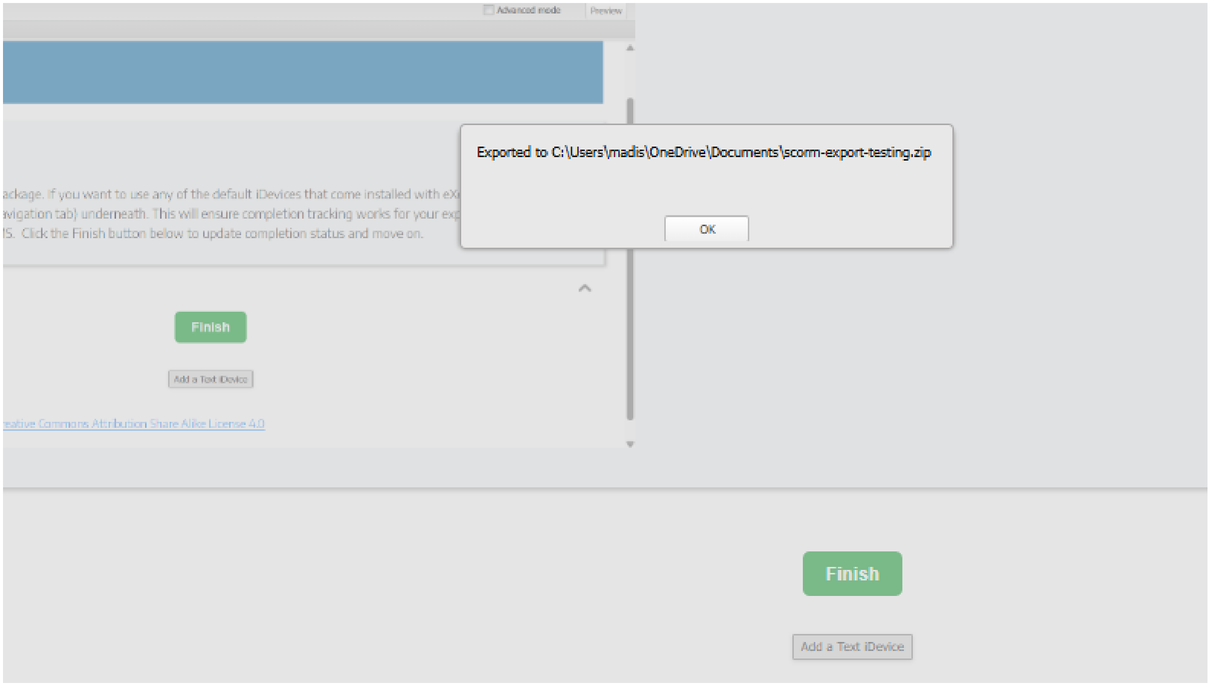
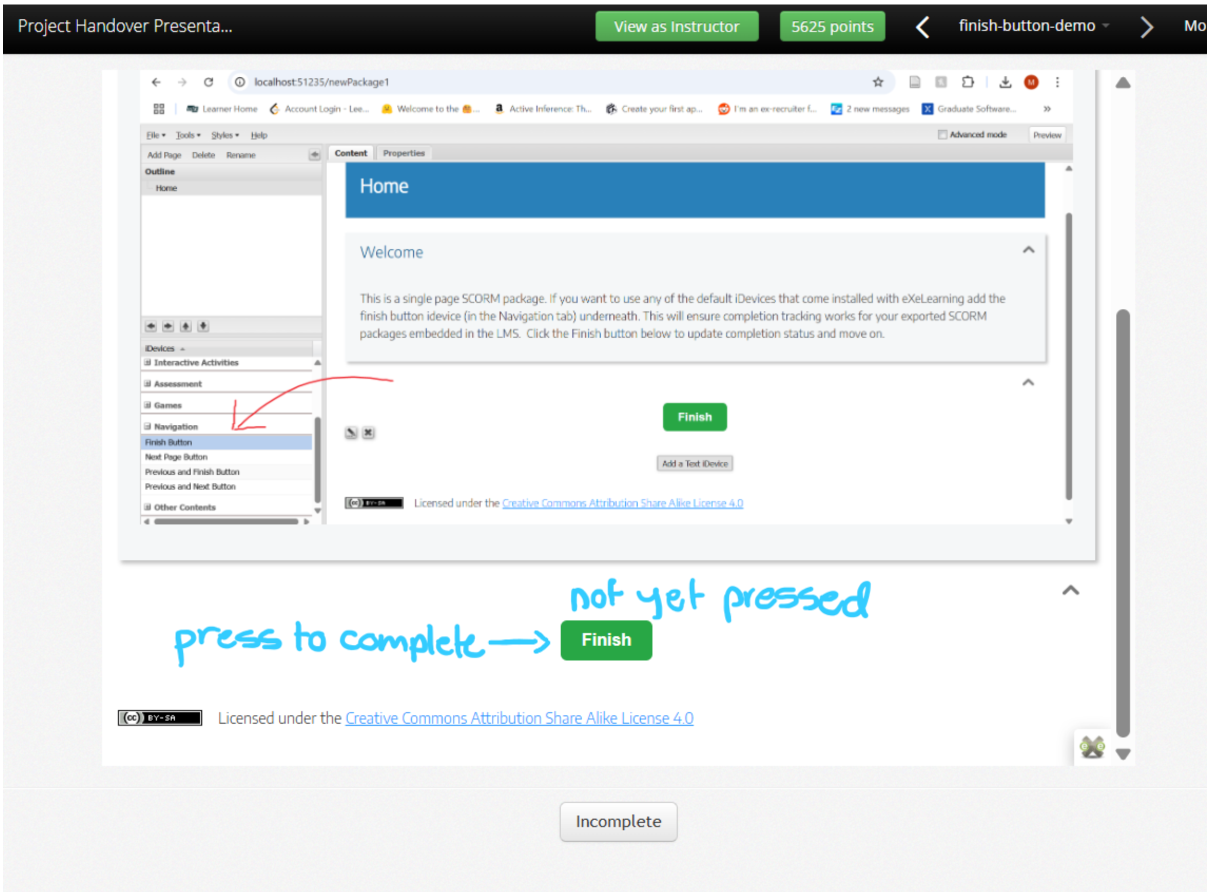
SS2 - SCORM Export: Confirmation of export completion or zip file.



Exported to C:\Users\madis\OneDrive\Documents\scorm-export-testing.zip

SS3 - Learner View: Finish button displayed before click within TalentLMS.



This is a single page SCORM package. If you want to use any of the default iDevices that come installed with eXeLearning add the finish button idevice (in the Navigation tab) underneath. This will ensure completion tracking works for your exported SCORM packages embedded in the LMS. Click the Finish button below to update completion status and move on.

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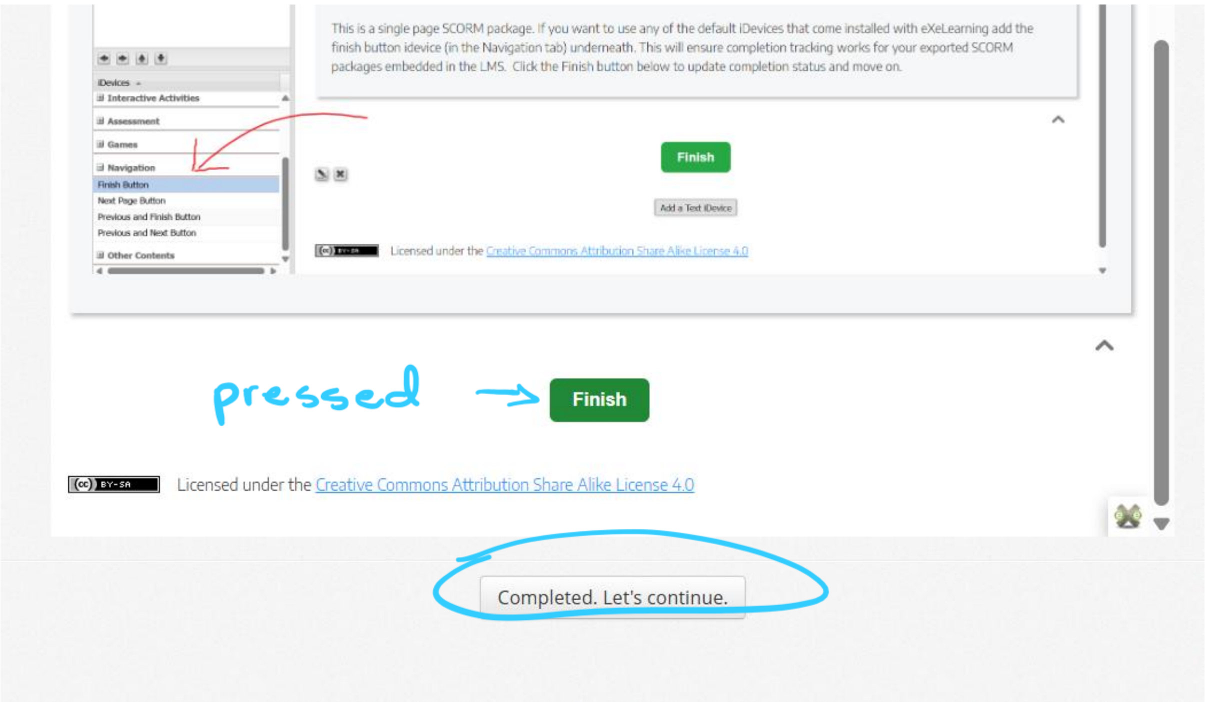
SS4 - SCORM Completion Proof: TalentLMS marks activity as **Completed** in the learner's report.



This is a single page SCORM package. If you want to use any of the default iDevices that come installed with eXeLearning add the finish button idevice (in the Navigation tab) underneath. This will ensure completion tracking works for your exported SCORM packages embedded in the LMS. Click the Finish button below to update completion status and move on.

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11.0 Test Case: Next Page Button

Field	Example
Test Case ID	TC-NP-001
iDevice Name	Next Page Button
Test Objective	Validate that clicking the "Next" button navigates to the specified page and updates SCORM progress status.
Preconditions Met	Yes - All items in Section 3 confirmed: correct installation, integration, export, and LMS setup completed.
Test Steps	1. Insert the *Next Page Button* iDevice into a page in eXeLearning. 2. Enter the next page filename (e.g., page2.html) in the input field. 3. Export as a SCORM 1.2 package. 4. Upload the package to TalentLMS and embed it in a course. 5. As a learner, open the module and click the Next button. 6. Confirm navigation to the specified page and SCORM progress save.
Expected Outcome	• The "Next" button is visible on the page. • Navigation occurs when the button is clicked. • SCORM progress status is saved as Incomplete. • Page transition occurs without error.
SCORM Validation	Verify that TalentLMS logs the SCORM activity as In Progress or Incomplete after the learner clicks the Next button.

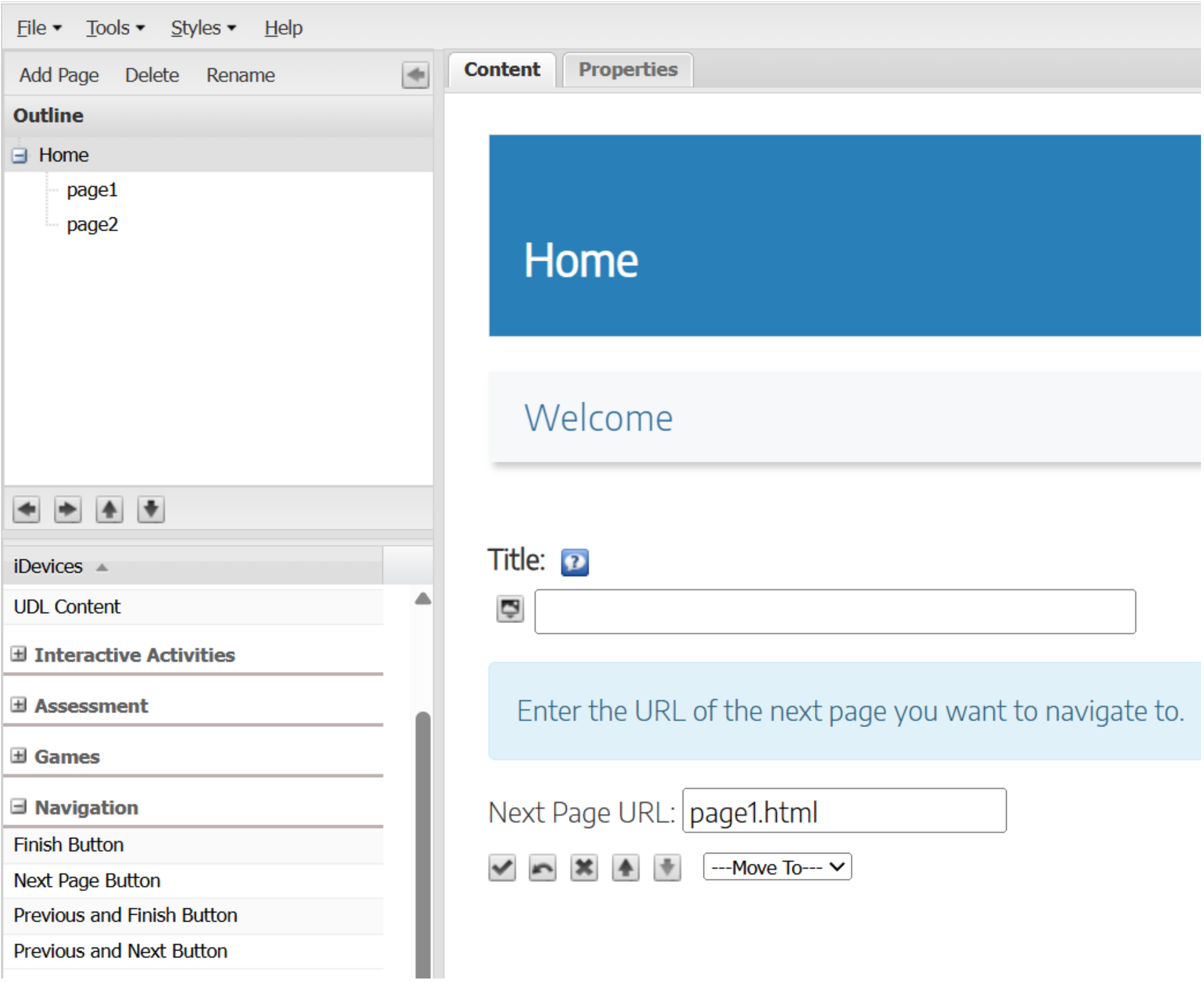
11.1 Pass/Fail Log Table

Step	Expected Result	Pass/Fail	Notes	Screenshot Reference
1	iDevice renders with URL input field	Pass	Authoring interface visible and functional	SS1
2	Accepts valid next page URL (e.g., page2.html)	Pass	Validation successful	SS1
3	SCORM export completes without error	Pass	Export successful	SS2

4	“Next” button appears in learner view	Pass	Styled and positioned correctly	SS3
5	Click triggers navigation to target page	Pass	Redirect occurs as expected	SS3
6	SCORM progress status saved on navigation	Pass	Confirmed using SCORM tracking or LMS report	SS4

11.2 Screenshot Evidence

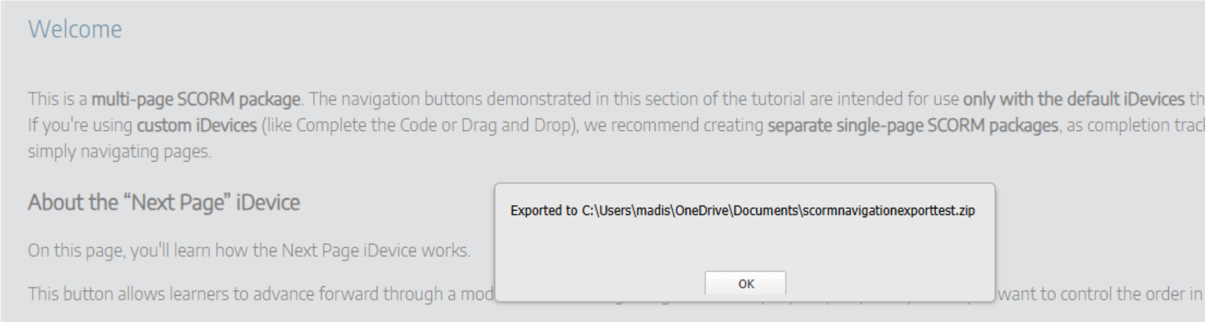
SS1 - Authoring View: Shows “Next Page URL” field filled with page1.html.



Enter the URL of the next page you want to navigate to.

Next Page URL: page1.html

SS2 - SCORM Export: Screenshot of exported SCORM 1.2 package confirmation.



Welcome

This is a **multi-page SCORM package**. The navigation buttons demonstrated in this section of the tutorial are intended for use **only with the default iDevices** th
If you're using **custom iDevices** (like Complete the Code or Drag and Drop), we recommend creating **separate single-page SCORM packages**, as completion track
simply navigating pages.

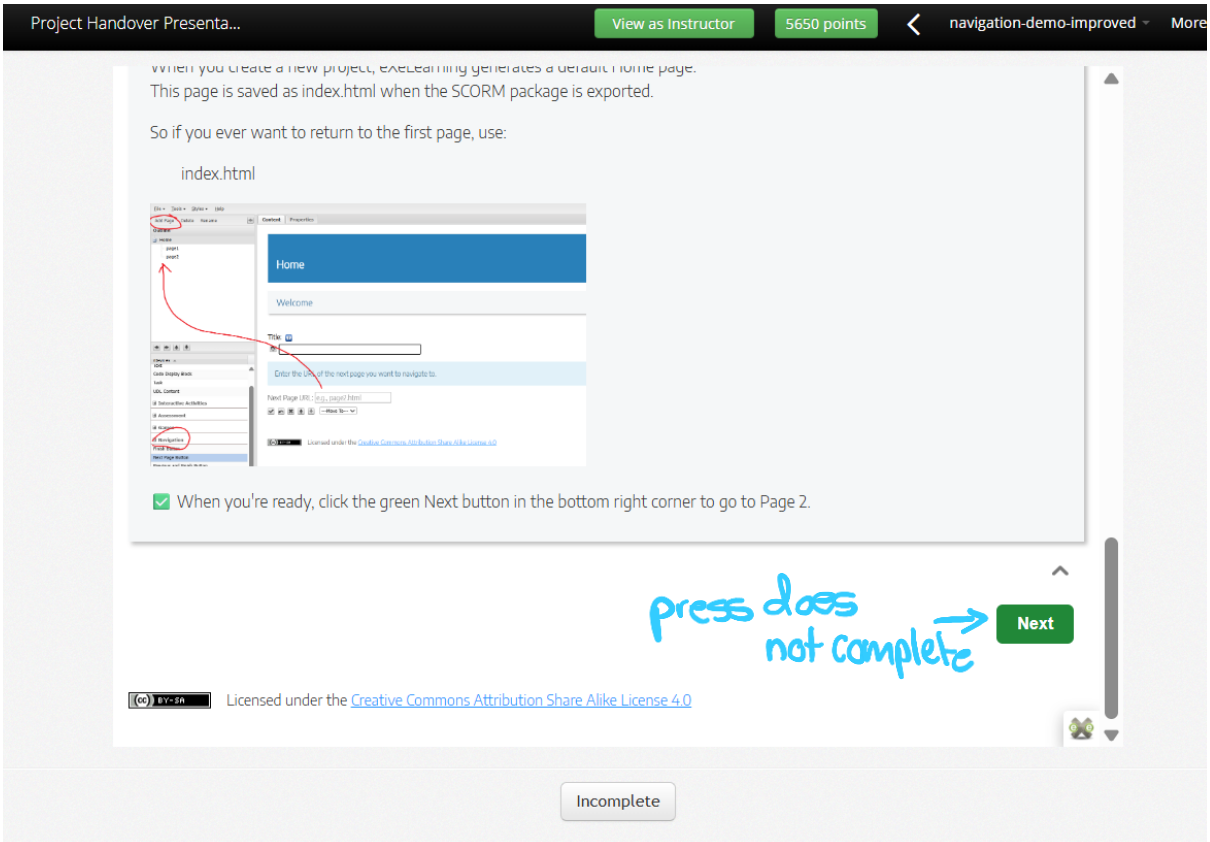
About the "Next Page" iDevice

On this page, you'll learn how the Next Page iDevice works.

This button allows learners to advance forward through a mod … want to control the order in

Exported to C:\Users\madis\OneDrive\Documents\scormnavigationexporttest.zip

SS3 - Learner Interaction: Learner clicks **Next**, confirming visual style and redirect.



Project Handover Presenta...
View as Instructor
5650 points
navigation-demo-improved
More

When you create a new project, eXeLearning generates a default Home page.
This page is saved as index.html when the SCORM package is exported.

So if you ever want to return to the first page, use:

index.html

Home
Welcome
Title:
Enter the URL of the next page you want to navigate to.
Next Page URL: e.g., page2.html

☑ When you're ready, click the green Next button in the bottom right corner to go to Page 2.

press does not complete

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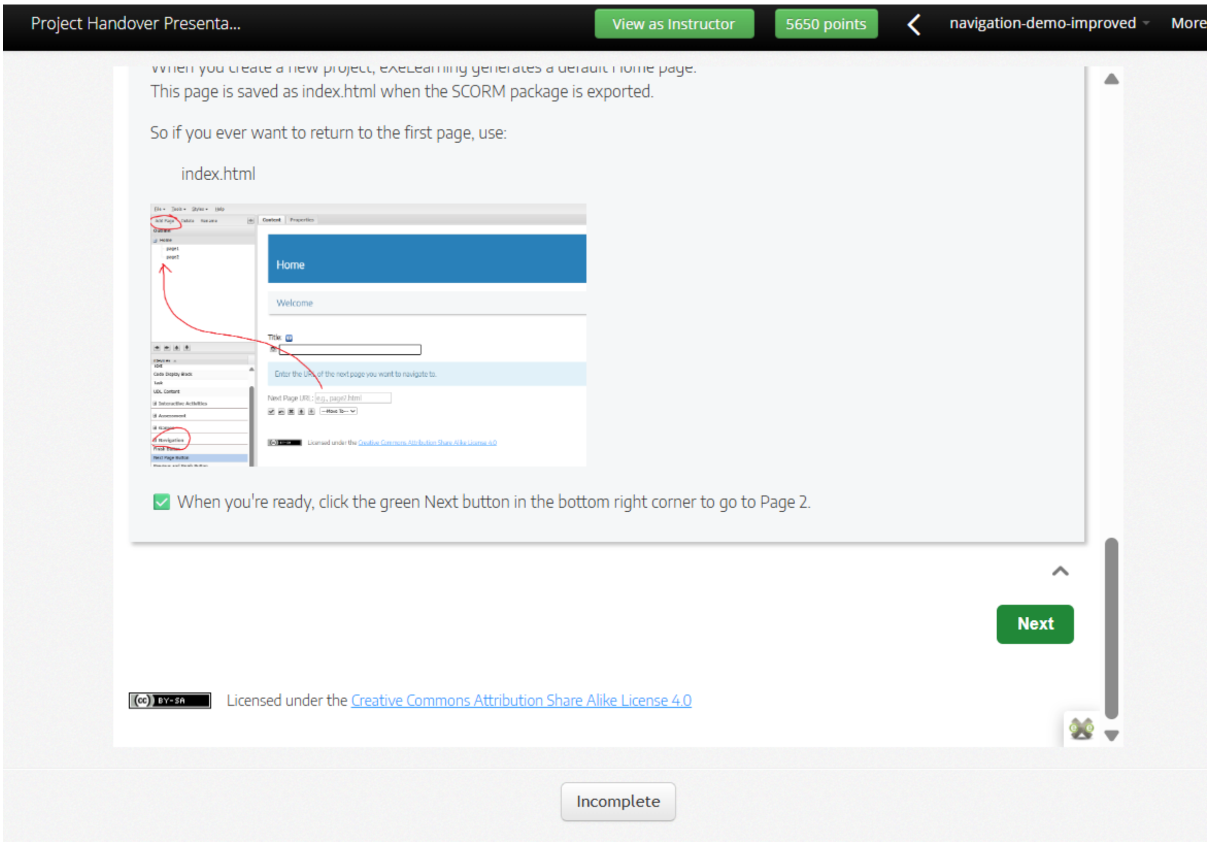
SS4 - SCORM Tracking: LMS report shows progress marked as "Incomplete" post-navigation.



When you create a new project, eXeLearning generates a default Home page.
This page is saved as index.html when the SCORM package is exported.

So if you ever want to return to the first page, use:

index.html

✅ When you're ready, click the green Next button in the bottom right corner to go to Page 2.

12.0 Test Case: Previous and Finish Button

Field	Example
Test Case ID	TC-PF-001
iDevice Name	Previous and Finish Button
Test Objective	Validate that the Previous button navigates to the specified page and the Finish button correctly triggers SCORM completion.
Preconditions Met	Yes - All items in Section 3 confirmed: correct installation, integration, export, and LMS setup completed.
Test Steps	1. Insert the Previous and Finish Button iDevice into the final page in eXeLearning. 2. Enter the previous page filename (e.g., page2.html) into the Previous Page URL field. 3. Export the project as a SCORM 1.2 package. 4. Upload the SCORM package to TalentLMS and embed it in a course. 5. As a learner, click the Previous button to verify navigation. 6. Return and click the Finish button to complete the module.

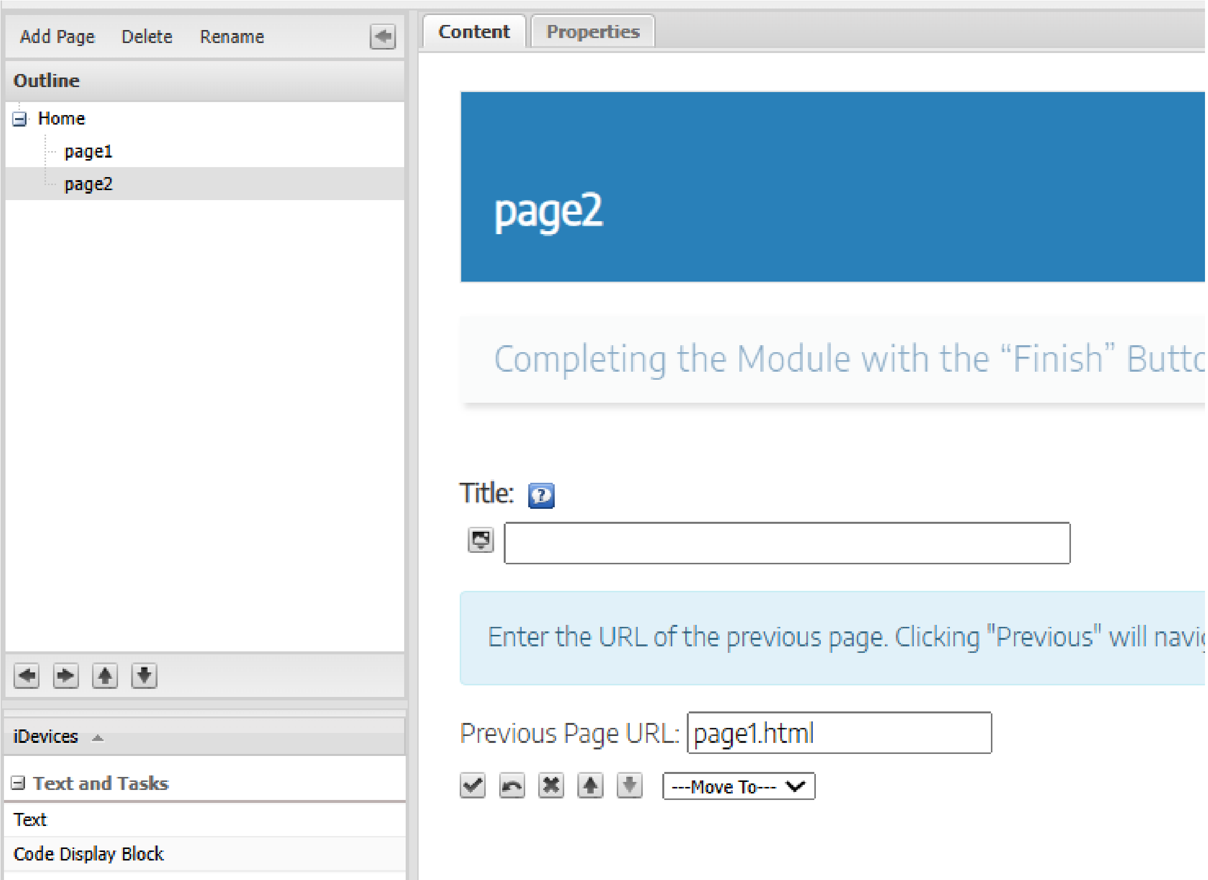
Expected Outcome	• Both buttons are displayed and styled correctly. • The Previous button navigates to the specified page. • The Finish button triggers the finishCourse() function. • SCORM completion and success statuses are updated. • Completion is recorded as Completed in TalentLMS.
SCORM Validation	Verify that TalentLMS records the activity as Completed when the Finish button is clicked, and logs Incomplete if only the Previous button is used.

12.1 Pass/Fail Log Table

Step	Expected Result	Pass/Fail	Notes	Screenshot Reference
1	iDevice renders with Previous Page URL input field	Pass	Authoring interface loads properly	SS1
2	Accepts valid previous page URL (e.g., page2.html)	Pass	Field accepts and stores input	SS1
3	SCORM export completes without error	Pass	Export works and zip is generated	SS2
4	Previous and Finish buttons display correctly in LMS	Pass	Buttons appear aligned and styled	SS3
5	Clicking Previous navigates to the correct page	Pass	Navigation confirmed in LMS	SS3
6	Clicking Finish triggers finishCourse() and completes module	Pass	SCORM marked as complete in LMS	SS4

12.2 Screenshot Evidence

SS1 - Authoring View: Previous Page URL set in eXeLearning with preview.



page2

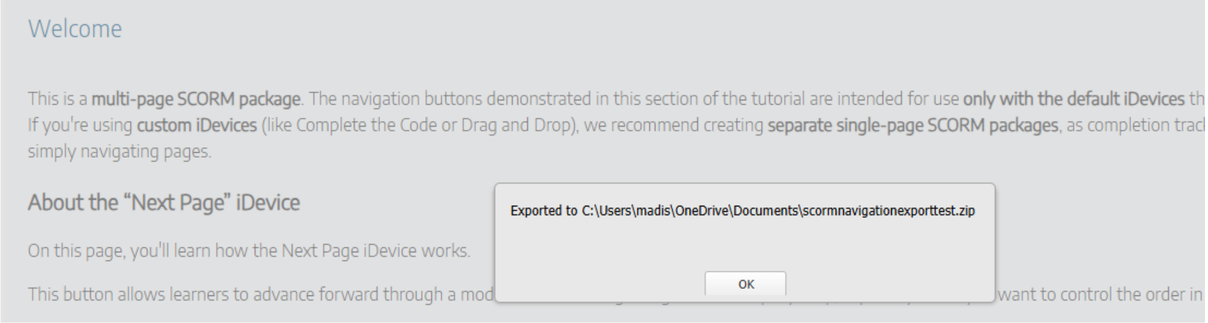
Completing the Module with the “Finish” Buttc

Title:

Enter the URL of the previous page. Clicking "Previous" will navi

Previous Page URL: page1.html

SS2 - SCORM Export: Confirmation or exported zip file in file explorer.



Welcome

This is a **multi-page SCORM package**. The navigation buttons demonstrated in this section of the tutorial are intended for use **only with the default iDevices** th If you're using **custom iDevices** (like Complete the Code or Drag and Drop), we recommend creating **separate single-page SCORM packages**, as completion trac simply navigating pages.

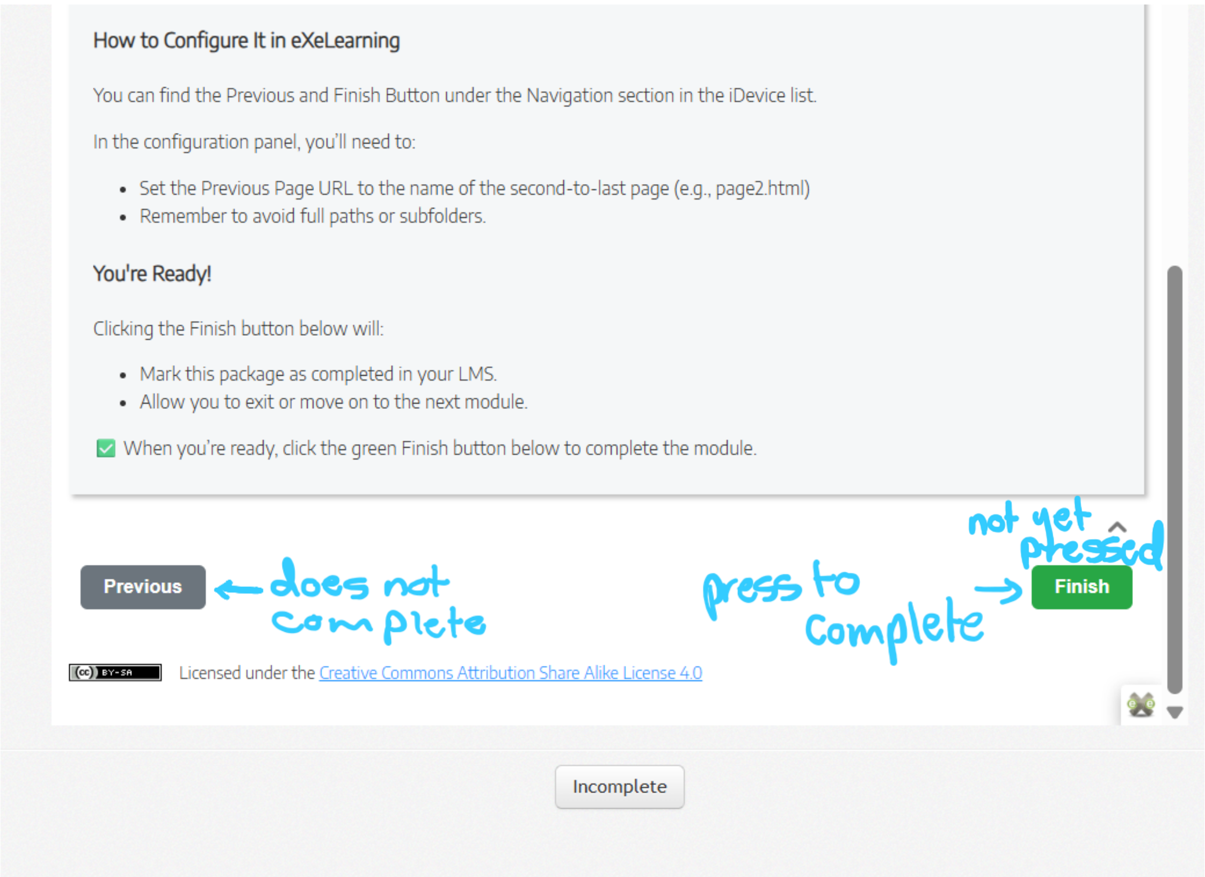
About the “Next Page” iDevice

On this page, you'll learn how the Next Page iDevice works.

This button allows learners to advance forward through a mod want to control the order in

Exported to C:\Users\madis\OneDrive\Documents\scormnavigationexporttest.zip

SS3 - Learner View: Previous and Finish buttons shown not yet clicked.



How to Configure It in eXeLearning

You can find the Previous and Finish Button under the Navigation section in the iDevice list.

In the configuration panel, you'll need to:

- Set the Previous Page URL to the name of the second-to-last page (e.g., page2.html)
- Remember to avoid full paths or subfolders.

You're Ready!

Clicking the Finish button below will:

- Mark this package as completed in your LMS.
- Allow you to exit or move on to the next module.

☑ When you're ready, click the green Finish button below to complete the module.

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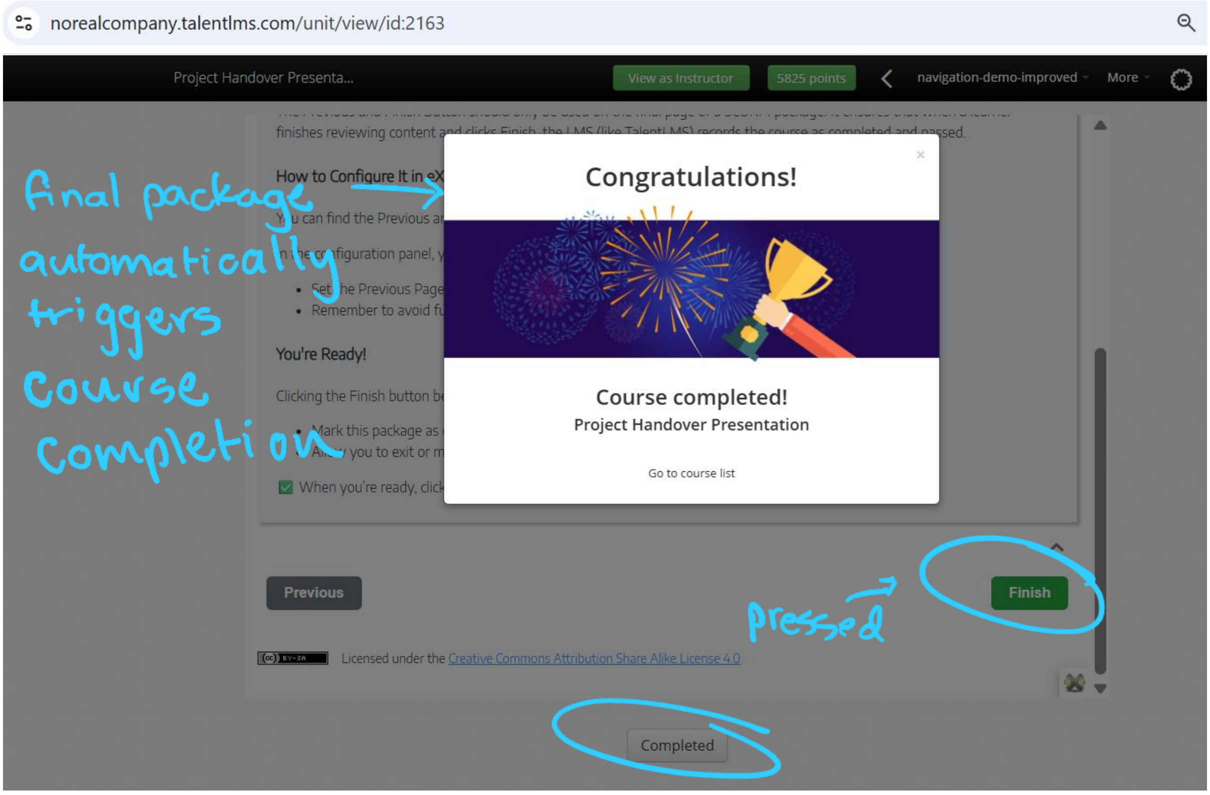
SS4 - SCORM Completion Proof: TalentLMS showing module status as **Completed** after Finish is clicked.



norealcompany.talentlms.com/unit/view/id:2163

finishes reviewing content and clicks Finish, the LMS (like TalentLMS) records the course as completed and passed.

Congratulations!

Course completed!

Project Handover Presentation

Go to course list

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13.0 Test Case: Previous and Next Button

Field	Example
Test Case ID	TC-PN-001
iDevice Name	Previous and Next Button
Test Objective	Validate that the Previous and Next buttons navigate to the specified pages and update SCORM progress appropriately.
Preconditions Met	Yes - All items in Section 3 confirmed: correct installation, integration, export, and LMS setup completed.
Test Steps	1. Insert the Previous and Next Button iDevice into a page in eXeLearning. 2. Enter valid page URLs for both Previous (e.g., page1.html) and Next (e.g., page3.html). 3. Export as a SCORM 1.2 package. 4. Upload the package to TalentLMS and embed it. 5. As a learner, click Previous and Next buttons to test navigation. 6. Verify SCORM progress is saved after either navigation.
Expected Outcome	• Both buttons are displayed and styled correctly. • Each button navigates to its respective URL. • SCORM progress status is saved as Incomplete on navigation. • Navigation works seamlessly within the LMS.
SCORM Validation	Verify that TalentLMS logs the SCORM activity as In Progress or Incomplete when either button is clicked.

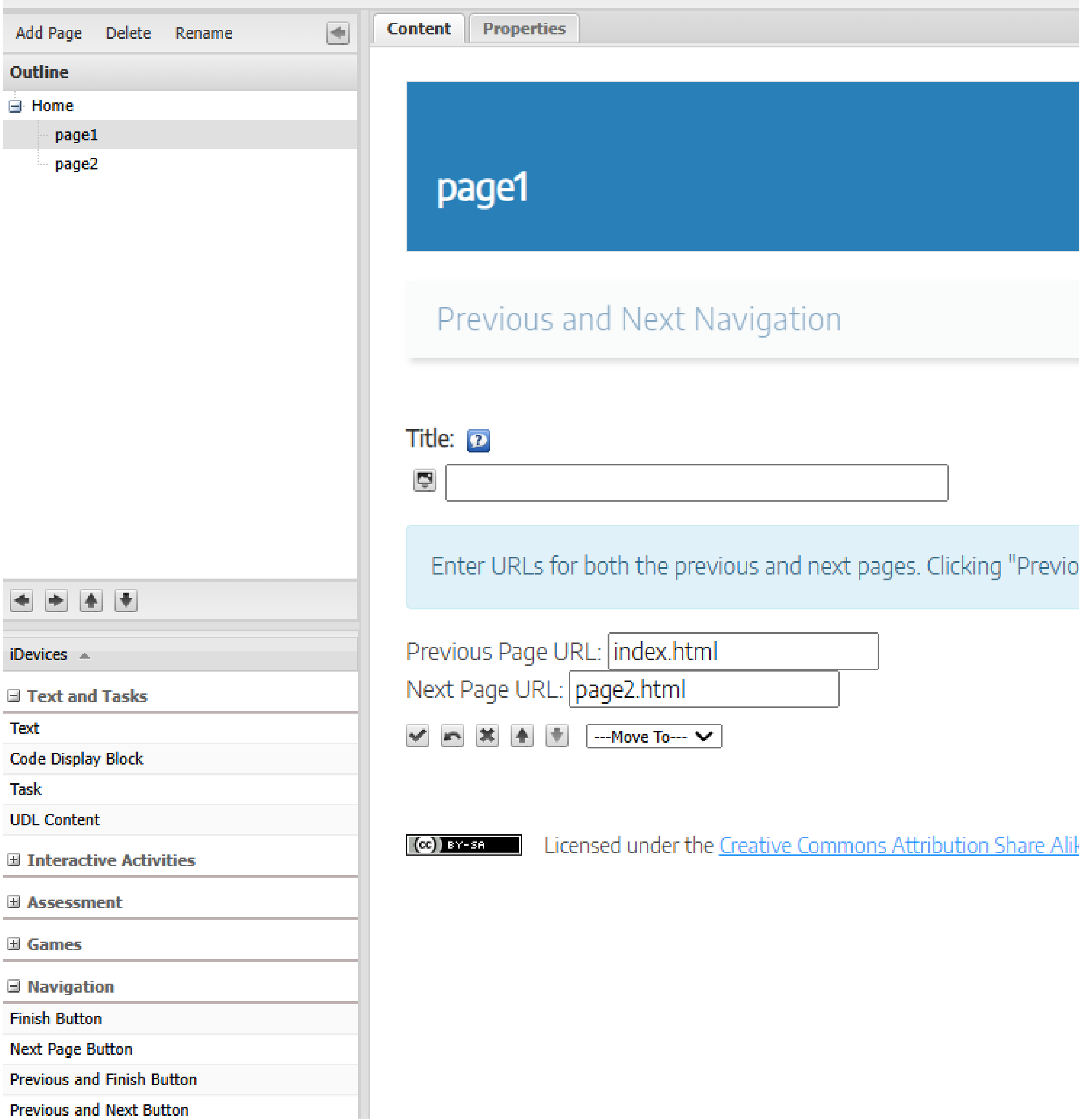
13.1 Pass/Fail Log Table

Step	Expected Result	Pass/Fail	Notes	Screenshot Reference
1	iDevice renders with both URL input fields	Pass	Authoring UI loads properly	SS1
2	Accepts valid previous and next page URLs	Pass	Form validation successful	SS1
3	SCORM export completes without error	Pass	Export process finishes cleanly	SS2

4	Buttons display in learner view	Pass	Correct alignment and style confirmed	SS3
5	Previous and Next navigation works	Pass	Navigation behaviour confirmed in LMS	SS3
6	SCORM progress status saved after button click	Pass	LMS logs interaction as "Incomplete"	SS4

13.2 Screenshot Evidence

SS1 - Authoring View: Fields filled for previous (page1.html) and next (page2.html) page URLs.



page1

Previous and Next Navigation

Title:

Enter URLs for both the previous and next pages. Clicking "Previo

Previous Page URL: index.html

Next Page URL: page2.html

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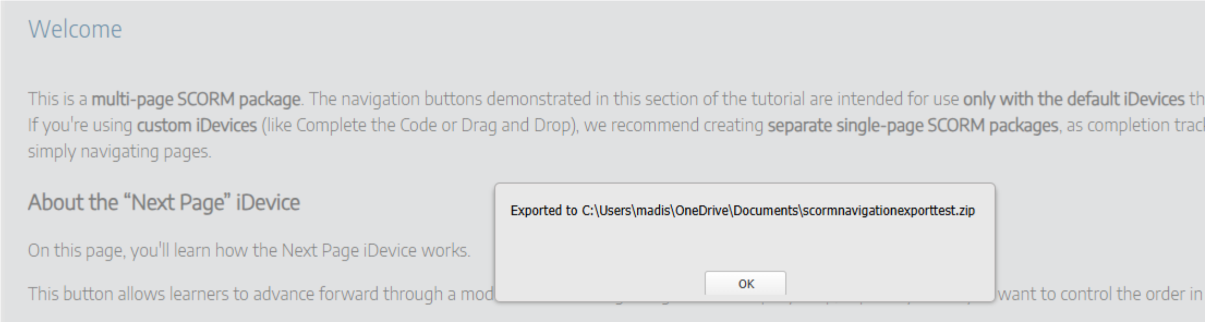
SS2 - SCORM Export: Screenshot of exported SCORM zip package or confirmation.



Welcome

This is a **multi-page SCORM package**. The navigation buttons demonstrated in this section of the tutorial are intended for use **only with the default iDevices** th
If you're using **custom iDevices** (like Complete the Code or Drag and Drop), we recommend creating **separate single-page SCORM packages**, as completion trac
simply navigating pages.

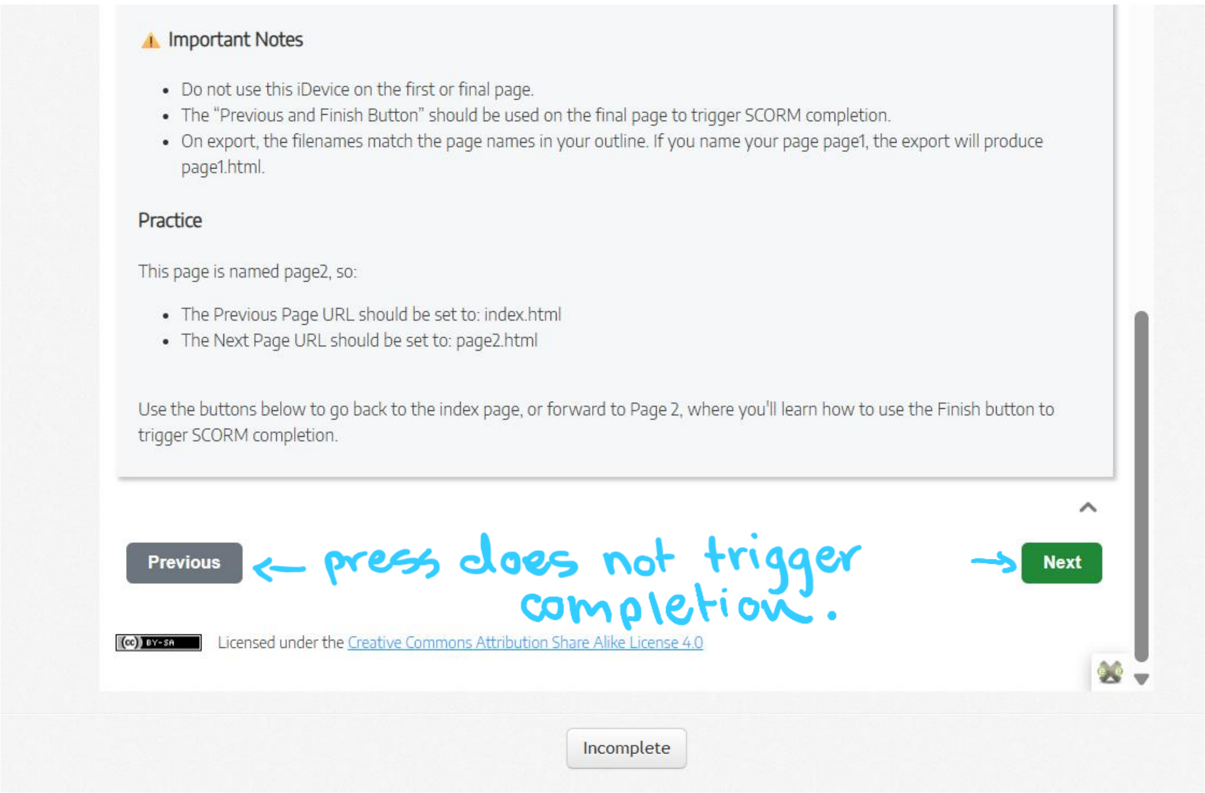
About the "Next Page" iDevice

On this page, you'll learn how the Next Page iDevice works.

This button allows learners to advance forward through a mod … want to control the order in

Exported to C:\Users\madis\OneDrive\Documents\scormnavigationexporttest.zip

SS3 - Learner View: Buttons rendered and used in TalentLMS.



⚠ Important Notes

- Do not use this iDevice on the first or final page.
- The "Previous and Finish Button" should be used on the final page to trigger SCORM completion.
- On export, the filenames match the page names in your outline. If you name your page page1, the export will produce page1.html.

Practice

This page is named page2, so:

- The Previous Page URL should be set to: index.html
- The Next Page URL should be set to: page2.html

Use the buttons below to go back to the index page, or forward to Page 2, where you'll learn how to use the Finish button to trigger SCORM completion.

← press does not trigger completion. →

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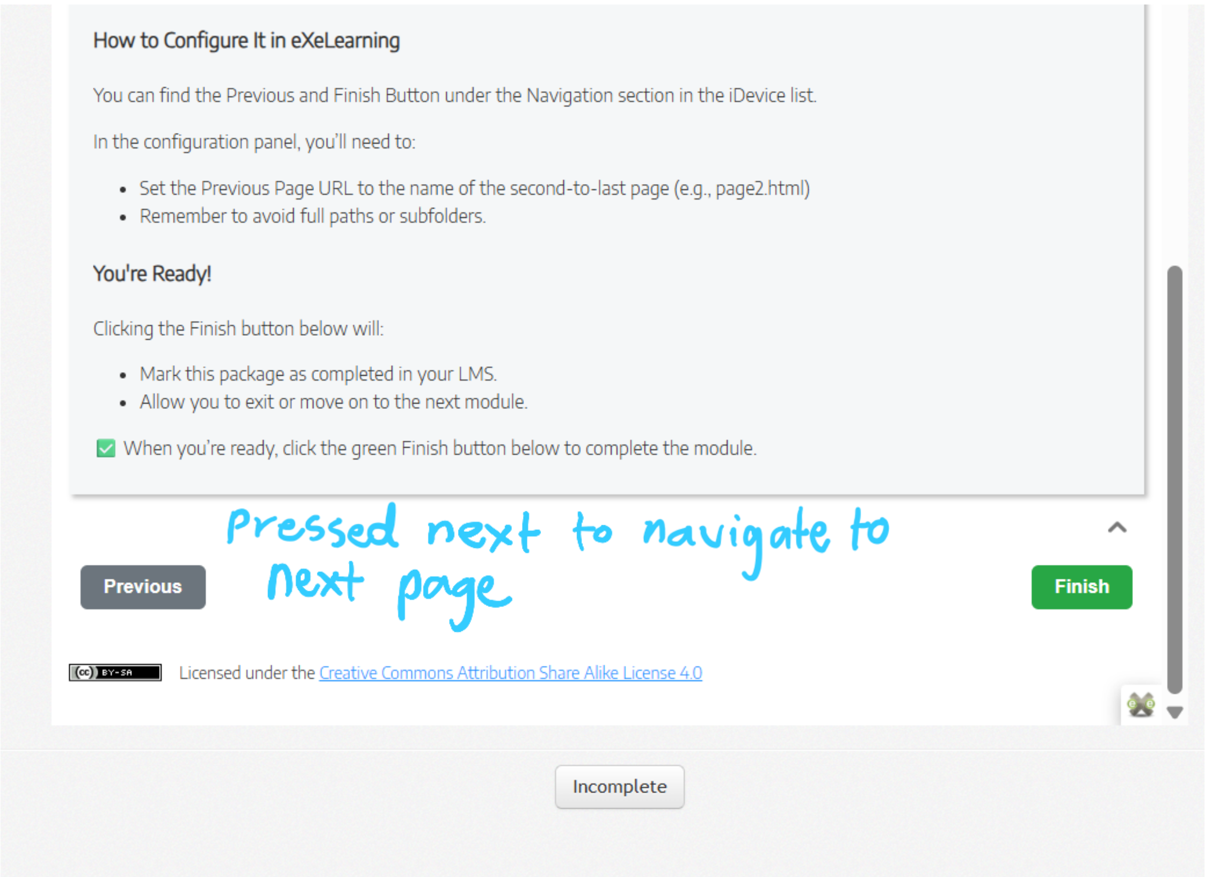
SS4 - SCORM Tracking: Progress shown as "Incomplete" in TalentLMS reports.



How to Configure It in eXeLearning

You can find the Previous and Finish Button under the Navigation section in the iDevice list.

In the configuration panel, you'll need to:

- Set the Previous Page URL to the name of the second-to-last page (e.g., page2.html)
- Remember to avoid full paths or subfolders.

You're Ready!

Clicking the Finish button below will:

- Mark this package as completed in your LMS.
- Allow you to exit or move on to the next module.

☑ When you're ready, click the green Finish button below to complete the module.

Pressed next to navigate to next page

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14.0 QA Sign-off Summary

iDevice Name	Test Case ID	Tester Name	Date	Status	Comments
Complete the Code	TC-CC-001	Mason Scanlan	25/5	Passed	Completion tracking and answer validation confirmed.
Drag and Drop	TC-DD-001	Madison Tana	25/5	Passed	Interaction and feedback behaviour confirmed.
Find the Error	TC-FE-001	Joel Hillmann	27/5	Passed	Line selection, feedback, and SCORM logic confirmed.

Code Display Block	TC-CDB-001	Shubham Paudel	26/5	Passed	Read-only view and SCORM “Mark as Done” verified.
Code Formatting Activity	TC-CFA-001	Shubham Paudel	26/5	Passed	Formatting comparison and feedback function validated.
Finish Button	TC-FB-001	Mason Scanlan Scanlan	25/5	Passed	SCORM completion trigger confirmed.
Next Page Button	TC-NP-001	Madison Tana	25/5	Passed	Navigation and SCORM progress update validated.
Previous and Finish Button	TC-PF-001	Joel Hillmann Joel	27/5	Passed	Previous navigation and SCORM finish logic verified.
Previous and Next Button	TC-PN-001	Mason Scanlan Scanlan	25/5	Passed	Bidirectional navigation and SCORM tracking confirmed.

Appendix A: eXeLearning - Important information and Setup Guide

1.0 Additional Setup Instructions

To ensure the new iDevices and SCORM functions work properly:

1. **Install the Correct Version of eXeLearning:**
   - Download and install the full *install version* of eXeLearning (not portable or ready to run versions).
   - This ensures the application registers correctly with system paths and dependencies.
2. **Administrator Access:**
   - You must have **administrator rights** on the computer to edit or add files to protected directories like C:\Program Files (x86)\exe\scripts\idevices.
3. **After Updating or Adding iDevices:**
   - Clear the eXeLearning application cache stored in: APPDATA\exe
   - Restart eXeLearning. This ensures the program loads the updated or newly added iDevices correctly.

2.0 Source Code Modifications

File: SCOFunctions.js

Directory: In scripts directory within eXeLearning installation path (e.g., C:\Program Files (x86)\exe\scripts)

Instruction:

1. Replace the function unloadPage(isSCORM) with the following
2. add the finish course function
3. Ensure goBack() and goForward() functions are included.

```
// Mark the course as completed and successful
function finishCourse() {
  computeTime();

  if (typeof pipwerks !== "undefined" && pipwerks.SCORM) {
      // Mark this SCORM package as completed and passed
      pipwerks.SCORM.SetCompletionStatus("completed");
      pipwerks.SCORM.SetSuccessStatus("passed");
      // Save and quit SCORM session
      pipwerks.SCORM.save();
      pipwerks.SCORM.quit();
  } else {
      console.warn("SCORM API not available. Unable to set completion
status.");
  }
}

function unloadPage(isSCORM) {
  if (typeof isSCORM === "undefined") {
      isSCORM = false;
  }

  if (exitPageStatus !== true) {
      if (scorm.GetCompletionStatus() !== "completed") {
          scorm.SetCompletionStatus("incomplete"); // Ensure incomplete if not
finished
          scorm.SetSuccessStatus("failed");
      }
      doQuit();
  }
}

function goBack() {
  pipwerks.nav.goBack();
}

function goForward() {
  pipwerks.nav.goForward();
}
```

3.0 Original code from SCOFunctions

```
function unloadPage(isSCORM)
{

    if (parent && !parent.mod_scorm_is_window_closing){
        // #505 Issue
        parent.mod_scorm_is_window_closing = true
    }

    if (typeof isSCORM == "undefined"){
        isSCORM = false;
    }
    //console.trace('exitPageStatus'+exitPageStatus);

    var status;
    if (exitPageStatus != true)
    {
        status = scorm.GetSuccessStatus();
        // In SCORM12, information about completion and success is stored in
the same place (cmi.core.lesson_status)
        if (status!="passed" && status!="failed")
        {
            if(isSCORM==true)
            {
                scorm.SetCompletionStatus("incomplete");
                scorm.SetSuccessStatus("failed")
            }
            else
            {
                scorm.SetCompletionStatus("completed");
                scorm.SetSuccessStatus("passed")
            }
        }
        doQuit();
    }

    // NOTE:  don't return anything that resembles a javascript
    //        string from this function or IE will take the
    //        liberty of displaying a confirm message box.
}
```

4.0 New iDevices

How to Create an Idevice

1. **Duplicate an Example Idevice**:
   - To simplify the setup, copy an existing idevice folder (e.g., “example-idevice”) and rename it.
   - Ensure that the new folder structure includes config.xml, edition, and export.
2. **Edit config.xml**:
   - Open config.xml and update the idevice’s name, description, and other identifiers to reflect the new idevice’s purpose.
   - This customization allows eXeLearning to recognize the idevice as a unique option.
3. **Develop JavaScript/CSS in the edition and export Folders**:
   - Customize the JavaScript in the edition folder for editing functionality and in the export folder for published interactivity.

  - Include any CSS required for specific styling.

4. **Restart eXeLearning and clear AppData/exe**:
   - After creating and configuring the idevice, clear your cache in AppData/exe and restart eXeLearning to load the new idevice. It should now appear as an option in the idevice selection menu.

Folder Structure and Key Components of iDevices

1. **Config File (config.xml)**
   - This file is essential for defining the idevice's basic configuration. It contains metadata and settings such as the idevice's name, description, and icon.
   - The config.xml file also includes the structure that eXeLearning uses to recognize and display the idevice in its editor, allowing it to appear as a selectable option within eXeLearning's user interface.
2. **Edition Folder**
   - The edition folder holds the JavaScript (and CSS if needed) that controls the behavior and appearance of the idevice during the editing phase in eXeLearning.
   - The JavaScript file in this folder is responsible for generating the form fields or interactive elements that appear when an LMS author edits the idevice's content in eXeLearning.
   - **Example**: If the idevice includes a text input or a button, the JavaScript in the edition folder would define these elements and any custom functionality (e.g., character limits, validation, or dynamic responses).
3. **Export Folder**
   - The export folder contains the JavaScript and CSS files necessary for the idevice's functionality and styling when it is published to SCORM or exported from eXeLearning.
   - This folder ensures that the interactive features, such as buttons or progress tracking functions, work correctly on the LMS once the content is deployed.

Example: If the idevice includes a "Next" button that tracks completion, the JavaScript in the export folder would handle the completion status update and any additional interactions required for SCORM functionality