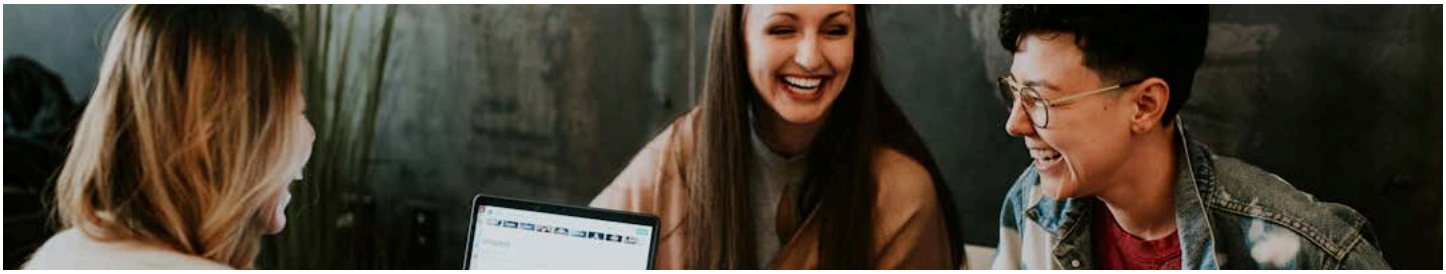


CA Assessment Item Creation Guide

Introduction

XA Assessment Item Creation Guide is an extension of our Assessment Strategy Guide and built upon our Writing Style Guidelines. This guide is specifically designed to help you create effective knowledge checks and badging quizzes, complementing our existing guides by focusing on assessment item writing practices that may not necessarily pertain to DOMC-type certification exams.

This guide aims to be a just-in-time resource, providing the tools and insights needed to create assessment items properly and efficiently, ensuring they meet our standards for quality and effectiveness.

Understanding Your Audience

The learning object should already been created with a particular persona or audience in mind. If it is not clear, please revisit the course page to clarify who your target audience is.

> Read the **pre-requisites** to better understand the knowledge or skill background of your learners in order to create the appropriate level of assessment.

Guidelines for Writing Test Items

General

Item Composition:

- An item consists of a **Stem** (question), a **Key** (correct answer), and **Distractors** (incorrect answers).
- Make sure all necessary information to answer the question is included in the item.

Clarity and Simplicity:

- Make sure that the correct answer(s) are **clearly marked**, **different**, and **mutually exclusive** from incorrect answers.
- Avoid excessive or irrelevant information in the stem.
- Avoid trick questions that do not measure the learning objective.

Relevance and Fairness:

- Ensure each item addresses only one learning objective and one concept.
- Incorporate common learner mistakes as plausible and realistic distractors.
- Ensure distractors are not repetitive and do not overlap.
- Avoid historical, local, or geographic-specific knowledge.
- Avoid items that reveal answers to other test questions.

Words to Avoid	Phrases to Avoid
every, all, none, always, only, never, or neither, never, always, best, worst, frequently, often, likely, **not*, except***	All of the above, None of the above, All the time, None of the time, Both A and B Which of the following

* If this is unavoidable, highlight the negative words by capitalizing them and putting them in **bold** font (e.g., **NOT**, **EXCEPT**).

Technical

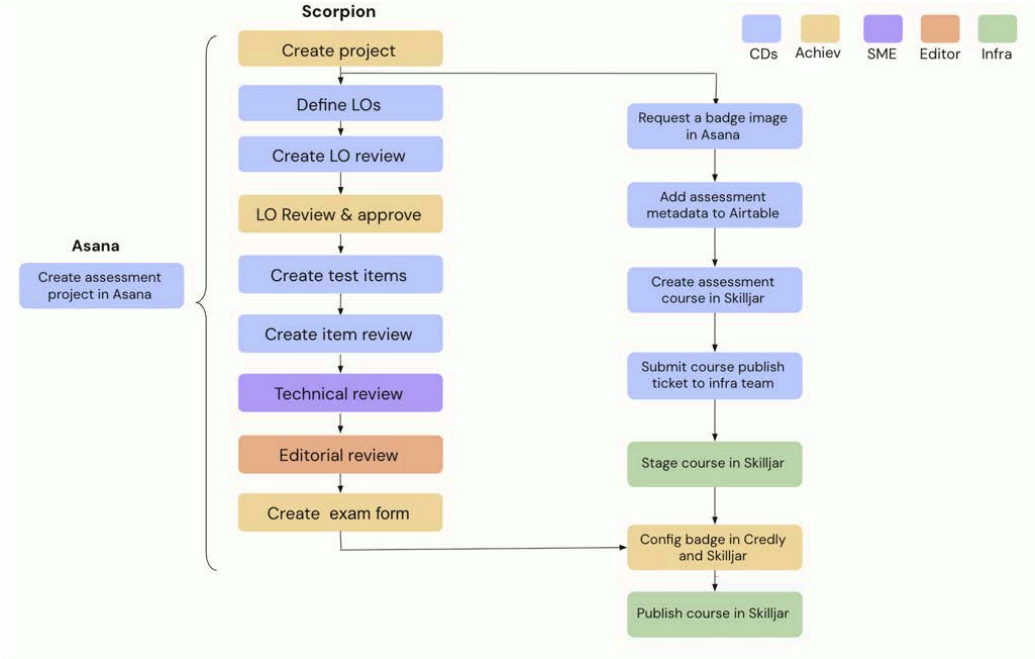
- Focus more on **process and skills**, and less on memorization of information.
- Avoid technical jargon, acronyms, product limitations, or obscure details.
- Avoid information that changes often, such as UX navigation.

Stylistic

- Write in complete and direct sentences whenever possible.
- Construct answer options to be similar in length, format, and style. The correct answer option should never be the longest option or different in style or format than the distractor options
- Avoid double negatives and minimize the use of negatives in statements.
- Use consistent syntax and language across all questions and answers.
- Ensure there are no grammatical clues to the correct answer, such as the use of “a” or “an.”
- Avoid cueing the correct answer by using the same word or phrase in the stem and the correct answer (e.g., Which Okta product can be used to create workflows that automate tasks? correct answer Okta Workflows.)

Skill Badge Assessment Development in Caveon

Assessment Development Process Steps



This diagram illustrates the complete badge assessment development and publishing workflow, showing the parallel workstreams and team responsibilities. The following guide focuses specifically on the Scorpion-based tasks (left side of the diagram) that content developers need to complete during the assessment creation process.

Steps	Team Responsible
1. Request creation of assessment project in Scorpion	C-Dev
2. Create project and invite C-Dev project team	Achievement
3. Create learning objectives	C-Dev
4. Create LO review	C-Dev
4. Review and provide feedback on learning objectives	Achievement
6. Draft assessment items	C-Dev
7. Create item review for SMEs	C-Dev

8. Conduct technical review	SMEs
9. Incorporate technical review feedback	C-Dev
10. Create item review for editor	C-Dev
11. Conduct editorial review	Achievement
12. Finalize assessment items	C-Dev
13. Create assessment form	Achievement

Blueprint and Learning Objectives

Just as an architectural blueprint guides all aspects of a building project, the Assessment Blueprint is used to guide the development of the assessment. The Assessment Blueprint specifies the learning objectives (also referred to as assessment objectives) that will be evaluated on the assessment. The assessment objectives should align with course learning objectives described in Airtable. The blueprint should also identify the number of items for each learning objective that will be presented to the candidate during the test.

C-Dev owner defines:

- How many items will be written per objective.
- How many items the candidate will be shown per objective based on the following rules:
  - Total should equal 10, 15 or 20
  - Max 20 questions per assessment

Sample Skill Badge Assessment Blueprint

Assessment Name (Project Name): Define Your Users in Okta

Learning Objective	**# Items to be Created**	**#Items to be Presented**
DTUO Differentiate the Types of Users in Okta		
DTUO-1 Define different types of Okta users	3	2
DTUO-2 Distinguish between default and custom user attributes in Okta	2	1

DTUO-3 Describe the various user statuses in Okta	2	2

Developing Test Items using Tools

Test Item Types

Whenever possible, incorporate more than one item type as a best practice to address different components and styles of learning. Here are the assessment item types that are available to use. You should select the item type that appropriately measures your learning objective.

Item Type	Definition	Knowledge Check	Skill Badge Assessment
Multiple choice single response	Candidates are presented with a stem and a choice of options, only one of which is correct.	Yes	Yes
Multiple choice multiple responses	Like a multiple choice item, candidates are presented with a stem and a choice of options. But there are multiple correct answers among the options. Generally, the candidate must select each of the correct answers and none of the incorrect ones to get credit for a correct response. Indicate the number of correct answers by adding phrases like “which two …” to the front of the stem and “(Choose two.)” to the end of the stem. Multiple choice single response and multiple choice	Yes	Yes

	multiple responses items should always have three incorrect answers or distractors.		
Hot Spot	The candidate places a single graphical marker on a specific part of a single background image to indicate an answer. The candidate must place the marker within a predefined “hot spot” on the image to get credit for a correct response.	Yes	Yes
Matching	Candidates are presented with several stems or stimuli and each one has a common set of possible options. The candidate cannot select the same option for more than one stem. The options can be presented in a drop-down list or as graphic images that the candidate must move to the stem or stimulus. Generally, the candidate must match each stem with its correct option to get credit for a correct response. Matching items work well for 1:1 relationships that need to be tested, such as matching a capital city to its state or country.	Yes	Yes
Build List (Ordering)	Candidates are presented with several stems or stimuli that represent a list. The candidate must indicate the correct order of the stimuli , This works well	Yes	Yes

	with tasks with steps that must be performed in a specific order.		
***True/False**	Candidates are presented with a stem, which is written in the form of a sentence, and must answer whether the stem is “True” or “False.” This item type is generally discouraged for most types of assessment because candidates who do not know the content have a 50/50 chance of guessing the correct answer.	Yes	**No**
****Caveon SmartItem**	A Caveon Smartitem contains multiple variations of items. Each time the item is administered, the computer generates a random variation of it.	N/A	Yes
***Fill in the Blank**	Candidates are presented with a stem, which is written in the form of a partial sentence, and must type a specific answer to correctly complete the sentence. This item type can be used when you want to assess candidates' ability to retrieve information from memory. If possible, the “blank” should be positioned at the end of the sentence to reduce the complexity of the task.	Yes	**No**

⚠

*While true/false and fill in the blank are available item types in Scorpion, they should NOT be used of the Skill Badge Assessments.

**Caveon SmartItem

- Uses variables to create items that have numerous versions to ensure exam **uniqueness** between test instances, while maintaining the difficulty level.
- You can also **randomize** questions within each area of the exam.
- Learn more about Caveon SmartItem, Smart Generator, SmartItem Example.

Creating Skill Badge Assessment Items in Scorpion

You will need an account to use the Scorpion tool. If you do not have one, you can create one at https://id.caveon.com. Use your work email for your account. Once your project is created, you will receive an email with a link that you can use to access your project.

Here are the steps to enter your assessment objectives and create test items in Scorpion.

Entering Learning Objectives using Custom Fields

To define the assessment objectives your assessment items measure, you'll leverage **Custom Fields** in Scorpion. These fields provide a way to label your items with descriptive information, allowing for clear organization and tracking.

Three Custom Fields have been pre-configured specifically for Skill Badge assessments:

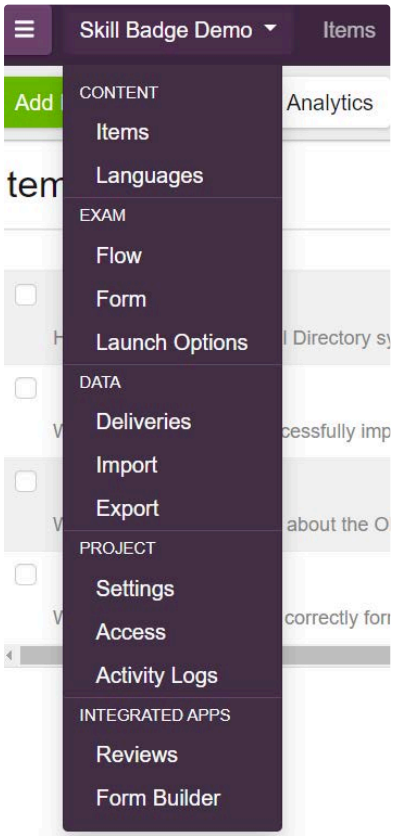
- Learning Objective – this is the key field that indicates the specific assessment objective each assessment item targets. We recommend using a standardized naming convention for your Learning Objectives to ensure clarity and consistency. Here's the format: <first initial of the key words in the course title>-<#of the LO> LO text.
  For example, if your course title is "Differentiate the Types of Users in Okta" (DTUO), and you have three LOs, they would be named:
  DTUO-1 Define different types of Okta users
  DTUO-2 Identify the differences between default and custom user attributes in Okta
  DTUO-3 Describe the various user statuses in Okta
- Phase – this field indicates the item's current development phase. We will use the following Phases in the Skill Badge Assessments:
  - **Draft** - CDev will use this phase when an item is first written and is ready for review.
  - **Technical Review Completed -** CDev will use this phase when SME technical review is finished and the item is ready for editorial review.

- **Revised, Review Needed** - CDev will use this phase when a reviewed item has been revised and is ready for a new review by Achievement.
- **Ready for Exam** - Achievement will use this phase when an item has successfully completed the review/revision process and is ready to be used on the exam.

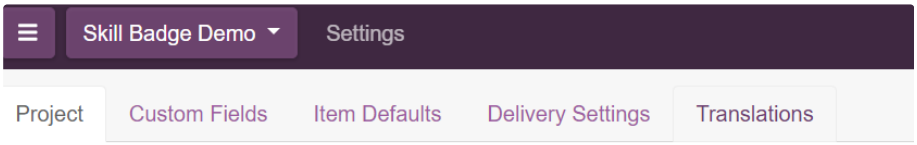
- Item Creator – this field indicates the item's creator or author by name

While these fields have been pre-configured, you may need to edit them for your assessment. The following steps will guide you through defining assessment objectives by editing Custom Fields.

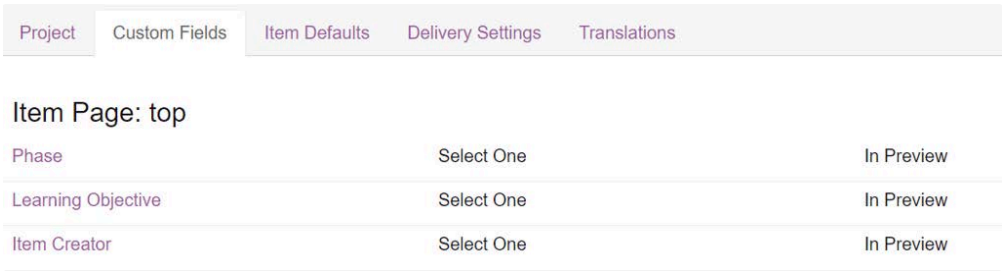
1. Sign in to your account at Scorpion or by accessing the Scorpion (Caveon - Prod) tile on your end user dashboard.
2. If you land on the Projects Screen, select your Project.
3. Click on the drop-down arrow by the project name and under Project click **Settings**.



4. Then click Custom Fields.

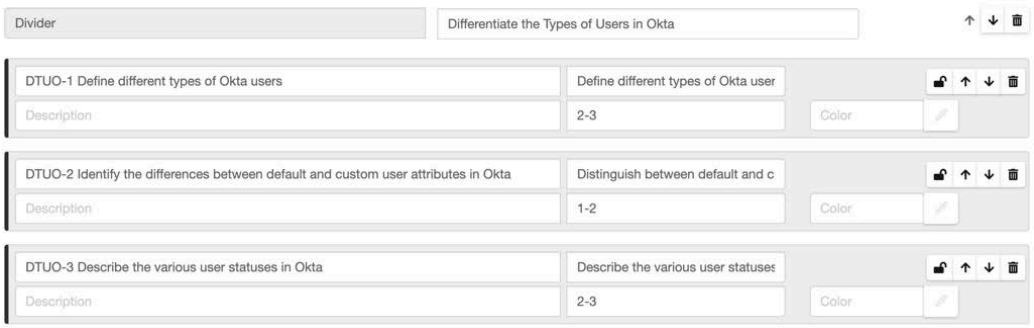


3. Click on the Custom Field that you wish to edit. For this example, we will select Learning Objective.



4. Let's add a Course and two Learning Objectives. Scroll to the bottom of the Learning Objective screen and select Add Divider. Type the name of the course into the Divider test box.

5. Define Learning Objectives
    a. Click **Add Option** to add a Learning Objective.
    b. Enter the Learning Objective (with number) in the box labeled **Text** and and the learning objective text in the box labeled **Preview**.
    c. In the box labeled **Target**, use the format **#Items to be Presented-#Items to be Created** (e.g., "2-3" means 2 items will be presented to candidates from 3 items created).
    d. Repeat this process for the remaining learning objectives.
    e. When finished, click **Save** on the bottom of the screen to save your work.



You may also want to add a new Custom Field to your Skill Badge Assessment. Directions for adding a new Custom Field may be found here.

Creating Learning Objective Review

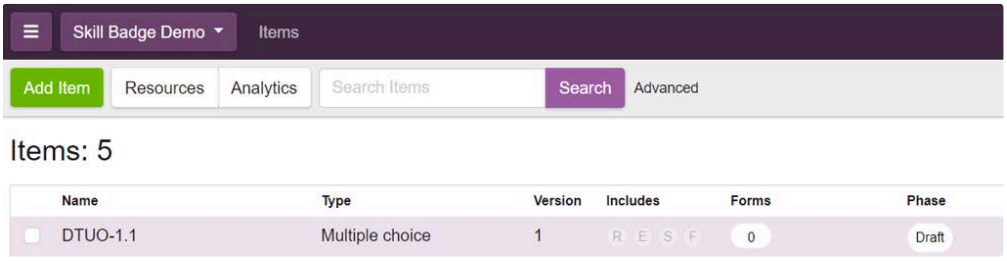
After defining your learning objectives, you'll need to create a review process for stakeholder approval:

1. In your project drop-down menu, select **Project** > **Access**.

2. Select the **Integrated Apps** tab.
3. In the Available Apps section, select **Reviews** > **Integrate**.
4. Select **Add a Review**.
    - Enter **Learning Objective Review** in the Name field.
    - Select **Custom Field Options** from the Type dropdown.
    - Select **Learning Objectives** from the Custom dropdown.
5. Leave selections blank to create a review with all items.
6. Add the following Yes/No type of question:
    - **Is this LO approved?**
7. Select **Save Review**.
8. Select the **Users** tab and then the **Add User** button to add reviewers.

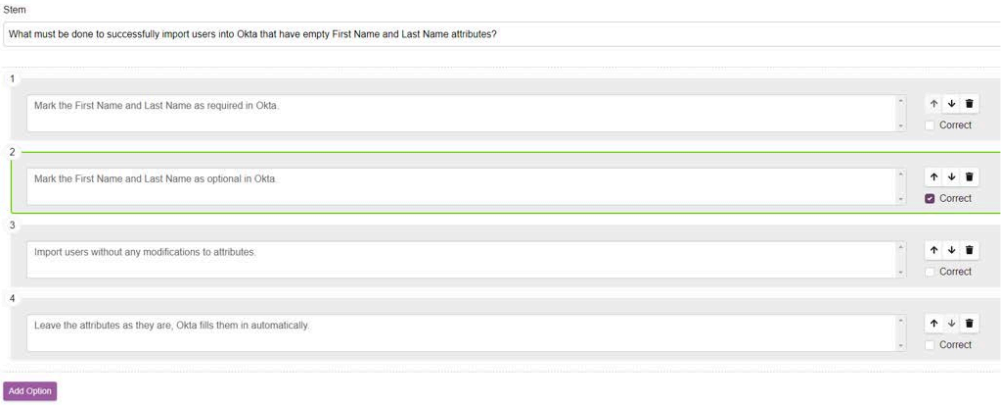
Adding Items to Your Exam

1. In your project drop-down menu, select **Content** > **Items**
2. Select Add Item.



3. On the next screen, enter the Item Name. We recommend using a numbering scheme for your test items to ensure easy identification and organization. Here's a recommended approach:
   The test item name should begin with the corresponding LO code, followed by a decimal point (.) and a sequential number.
   For example, if the Learning Objective is named "DTUO-1 Define different types of users in Okta" the first test item for that objective would be named "DTUO-1.1"
4. Click on the box for Item Type and select the Item Type you will be using for this item. We will be writing a Multiple Choice Item.
5. Click on the box for Phase and select “Draft.”
6. Click on the box for Learning Objective and select the LO for your item.
7. Click on the box for Item Creator and select your name from the drop-down menu.

8. Scroll down on the screen and enter your Stem and options. Indicate your keys (correct answer options) by checking the box next to “Correct” for that option. Your correct answers will also be surrounded by a green box.



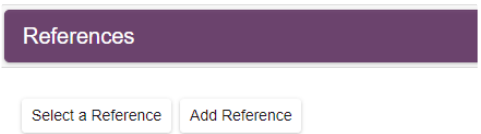
9. If you need more Options for your item, select Add Option.
10. On the right side of the screen, click Show More to provide an Option Rationale for why each option is either correct or incorrect. The rationale for an incorrect option should start with, “This option is incorrect because…” The rationale for a correct option should start with, “This option is correct because…” This task is **optional**. It could be useful information if a candidate later challenges an item.

11. Create a Reference

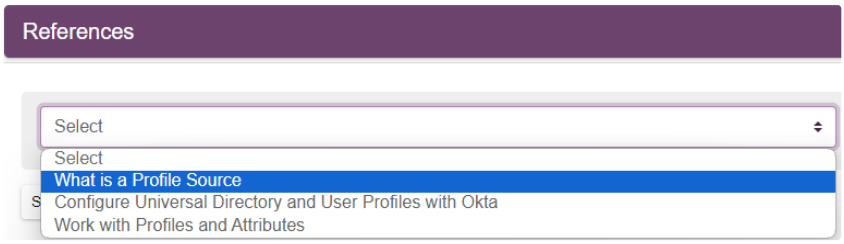
    Note: References will not be visible to exam takers; it is intended only for the test item creators and reviewers.

    a. Once you have completed your Option Rationales, scroll to the bottom of the screen to enter a reference for the item.

    b. You can Select a Reference if it has been previously added to the project. You can also Add the Reference if it has not been added.



c. To Select a Reference, click the Select a Reference box, click on the dropdown arrows in the Select box, and select the reference.



d. To Add a Reference, click the Add Reference Box, type your reference in the box and click Create Reference. Then close the Content Reference pop-up by clicking the “x” in the upper right. Please note that you will need to go through the Select the Reference step in order to use the reference that you added for your item.

12. When you have completed your item, scroll to the top and select **Save** to save the item and stay on the item’s screen. If you'd like to take additional actions, click the dropdown arrow next to the Save button to choose from the following options:
    - **Save and Exit** – Saves the item and returns you to the item list.
    - **Save and Create Another** – Saves the item and opens a blank item form so you can create a new one.
    - **Save and Clone** – Saves the item and creates an identical copy that you can modify into a new item (helpful for items with similar structure).
13. As you are creating items, refer to the Item Review Checklist in the next section to evaluate and edit your items.

Edit Exam Items

1. After you have created an item, you can edit it at any time.
2. From the Items screen, click on the item that you wish to edit.
3. Edit the item by clicking in the appropriate box and typing over the existing text.
4. Once you have completed your edits, select Save to Save the item and stay on the item’s screen.
5. Depending on your edit, saving the item may create a new version of the item. A new item version is indicated by the version number incrementing by one and a Make Live

icon. You must click this icon in order for your new version to be used in your exam.

Creating Item Review in Scorpion

Creating Technical Review

Do everything in Learning Objective Review except:

1. Name the review: **Technical Review**
2. Provide review instructions in the **Special Instructions** field, here is an example:

> Please review the test items by answering the questions and add comments with as much detail as possible if you identify any issues or areas for improvement.
>
> You can review the Learning Path content using the following link to ensure alignment between the assessment and the training material: https://learning.okta.com/path/optimize-device-security-and-management
>
> Thank you for your feedback!

3. Add the following **Questions:**

- Does the item assess the objective?
- Is the item technically correct?
- Does the course provide the knowledge to answer the item?

Creating Editorial Review

You will need to create two separate editorial reviews to make the editor's review process more efficient.

First editorial review

After SME review is complete and feedback is incorporated:

1. Update item phases: Change all reviewed items to **Technical Review Completed**.
2. Create the first editorial review:
   - Name: **Editorial Review**
   - Phase filter: Select **Technical Review Completed** in the "Phase: Include items with these values" field
   - **Special Instructions:**

Please review the test items by answering the questions and focus on clarity, grammar, and adherence to assessment guidelines.

- **Questions:**
  - Does this item adhere to Okta assessment guidelines?
  - Is this item written clearly?

3. Process editorial feedback:
   - For approved items: Change phase to **Ready for Exam**.
   - For items needing revision**:** Incorporate feedback, then change phase to **Revised, Review Needed.**

Second editorial review (for Revised Items)

1. Create the second editorial review:
   - Name: **Editorial Review - Revised Items**
   - Phase filter: Select **Revised, Review Needed** in the "Phase: Include items with these values" field
   - **Special Instructions:** Same as first editorial review
   - **Questions:** Same as first editorial review

> This two-review approach ensures editors only see items that need their attention, making the review process more efficient for everyone involved.

Once you've completed all of your revisions, update the phase of each item to **Ready for Exam**, then notify your Achievement Team contact.

Viewing Reviews

To view Reviews that you've been requested for:

1. Visit Scorpion Reviews
2. Select the name of the review you want to start
3. For each item, select **Show More** (to see Learning Objective and Reference) and **Show Correct** (to see correct answers).
4. Answer required questions for each item.

To view Reviews others have given you:

1. Visit Scorpion
2. Select your Project
3. Select the dropdown from your Project's name

4. Select **Reviews** in the Integrated Apps section
5. A list of all the Reviews you've requested others for should appear
6. Select the Review you'd like to view feedback from
7. Expand the **Overview** tab
8. Select each question to view feedback

Providing Feedback

Feedback is limited to the information contained in the candidate's exam performance report. This information will include that candidate's overall score and their scores on the sections of the exams that link to the courses in the Learning Path for the Skill Badge. The score report will also indicate whether the candidate passed or failed the assessment.

Reviewing Assessments

Use the Item Review Checklist to evaluate your items during development.

Item Review Checklist

- [ ] Is the item technically **accurate**?
- [ ] Is the item **relevant** to the learning experience?
- [ ] Is the item **congruent** with the learning objective and outcome?
- [ ] Are the item key(s) marked?
- [ ] Is the item appropriately difficult according to the assigned cognitive level?
- [ ] Does the item follow Okta **branding** guidelines?
- [ ] Does the item meets XA Writing **Style standards**?
- [ ] Is the item **complete**, grammatically and logically?
- [ ] Is the item free of grammatical and spelling errors?
- [ ] Does the item include proper **product terminology**?

Assessment Review Checklist

After you have developed all of your items for your assessment, use the Assessment Review Checklist to evaluate it.

- [ ] Is the assessment as a whole **balanced** to meet the goals of the exam blueprint according to the percentage coverage of each domain?
- [ ] Is the exam free of any "**enemy items**", which are items that might give hints to answers of other items within the assessment.

Analyzing Assessment Data

Analyze Assessment Results

1. **Review** the assessment results from learners periodically.

2. **Compare** results to the expected learning outcomes to **eliminate** any items that may not have measured learning effectively.
3. Determine which assessment items may need to be modified for **different cognitive levels**.
4. **Edit and/or create** new assessment items.

Revise Overall Learning Experience

1. **Revise** any learning objectives to further **align** to the learning outcomes according to the assessment report.
2. **Adjust** the overall curriculum or learning path to keep the learning experience **relevant and updated**.

Appendix A: Define Learning Objectives and Learning Outcomes

Your learning object should be designed with clearly-defined learning objectives and learning outcomes in order for the learning to be measurable. If not, please:

1. Review the content of the learning object.
2. Identify the desired/required **core knowledge** or **skills** for the learning object.

Core Knowledge	vs.	Core Skills
What you want them to **understand** at the minimum		What you want them to **be able to do** at the minimum

3. Create a list of the core knowledge and skills organized with their **learning objectives** and **learning outcomes**.

Learning Objectives	vs.	Learning Outcomes
What the **instructor** or **lesson** aims to do DURING the learning experience		What the **learner** is expected to be able to do AFTER the learning experience

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Appendix B: Assign Cognitive Levels and Action Verbs

For each knowledge and skill in the learning domain, according to the following table

1. **Assign** one or more appropriate **cognitive levels, I, II, or III**.
2. **Assign** one or more appropriate **action verbs**.
3. Introduce items with higher levels of cognition **gradually**.

Level I - What?	**Level II -L Why?**	**Level III - How? and When?**
Remember + Understand	Understand Deeper + Apply	Analyze + Evaluate + Create
• Facts • Definitions • Recognition	• Cause and effect • Differentiation • Demonstration	• Analysis • Troubleshoot • Solution
ACTION VERBS		
• This is not an exhaustive list. Learn more about action verbs with Bloom's Taxonomy.		
• List • State • Describe • Explain • Define • Identify • Match • Label • Outline • Summarize • Give examples	• Classify • Demonstrate • Explain • Express • Illustrate • Interpret • Reproduce • Repeat • Compute • Determine • Select	• Organize • Prepare • Solve • Calculate • Examine • Discover • Modify • Operate • Generalize • Predict • Use
Limit usage if possible to elicit deeper learner engagement	• Apply to simple scenarios • When is it appropriate/	• More complex scenarios • Discover the cause

	inappropriate to use • What are the appropriate steps	• Different methods of troubleshooting