

Data Health Check Testing Plan

Phases

Types of Testing	Map to Exchange Guidance (pdf)			QA Responsibility	QA Environment	Frequency
	Definition	Exchange Expectation	Crocus Proposed			
Functional Testing (TBD - link)	Is the business logic correct? o For example, are the values that I expect, correct?	Expected, Automated	Expected, Manual Integrated into Acceptance Criteria of Agile stories) Build up tests incrementally (from acceptance criteria)	Crocus	Crocus Dev	Every sprint
Integration Testing (TBD - link)	Do the different layers of the application work together?	Expected, Automated	Expected, Manual to start, and	Crocus	Crocus Dev +	

	For example, can you query the database?		move to automated as schedule allows		Integration or Exchange Pre-prod	
<i>Acceptance Testing</i>						
<i>Exchange PO Acceptance</i>	NA	NA	Expected, Interactive (Part of SOW)	Exchange PO	Exchange Pre-prod	
<i>User Acceptance</i>	User acceptance in UAT	Expected, Interactive	Expected, Interactive	Exchange PO	Exchange UAT	Each roadmap release
<i>Non-Functional Testing</i>						
Cross Browser Compatibility (TBD - link)	Works with: <ul style="list-style-type: none"> - Safari - Mozilla Firefox - Google Chrome - Microsoft Edge 	Expected, Interactive	Expected, Interactive (Test with the latest released version of the 4 browsers)	Crocus	Crocus Dev	

			(Consider automating?)			
Responsiveness (TBD - link)	Does the application respond effectively to the size and orientation of the screen (i.e., desktop; mobile testing when mobile testing is suited for the use case)?	Expected, Interactive		Crocus	Crocus Dev	
Accessibility	Is the application usable for users with disabilities meeting WCAG 2.1	Expected, Interactive	Expected, Interactive	Cricket	Exchange Pre-prod	
Security	Is the application vulnerable to threats or risks?	Expected, Interactive	Expected, Automated Rely on automated scanning (Exchange tool - Snyk)	Crocus & Exchange DevOps	Crocus Dev + Exchange Pre-prod	

<p><i>Performance</i></p>	<p>Vendors will recommend to The Exchange hosting requirements based on a per-user count and load testing results of the hosted application. In addition, a recommendation on optimal performance will be discussed and agreed upon - a possible measure may be Apdex (Application Performance Index).</p>	<p>Expected, Automated</p>	<p>TBD - understand how the broader infrastructure is approaching testing</p>	<p>Crocus</p>		
<p>Other</p>						
<p>Smoke Testing</p>	<p>Do the major or basic parts of the application work as expected? o Quick to execute. Can be completed right after deployment to a non-production environment to ensure that everything works as</p>					

	expected before engaging in more expensive testing.					
Regression Testing	Do modifications to the application break existing functionality? o Did bug fixes introduce further issues?					
Unit Testing	Are the individual components/modules of the application working?	May be optional depending on the product and whether the same testing coverage was implemented in another testing (e.g., integration testing).	Not in scope for MVP		TBD	
<i>End-to-End Testing</i>	o Do the user workflows function as expected?	Optional				

	o Replicate user behavior for common/critical workflows.					
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Purpose

Functional and usability testing will be a part of the acceptance criteria for tickets in a sprint.

Acceptance Criteria

Internal Review Process

- **Unit Testing**

- What is currently in place?
- Use of the Playwright testing framework?
- Are the individual components/modules of the application working?

- **Functional Testing**

- Is the business logic correct? Does the data appear as expected?
 - Verify the data health preview row counts with the source
 - Front End: Are queries in the GraphQL wrapper correct and match business rules?
- Does the product meet the stated requirements? Does it conform to the approved wireframes?

- **Security Testing**

- Is the product vulnerable to threats or risks?
 - Test user access control by verifying that only authorized users can view and interact with the correct data.

- GraphQL
 - Authentication has been set to require clients accessing its GraphQL service to supply an Exchange JWT token.
 - Verify GraphQL is not accessible to the internet and only DHC End
- ODS Authentication is working properly
 - Front End: DHC allows the ability to switch organization using the tenant drop-down
 - Back End: Does the DHC check if the secrets are already provisioned with the supplied districtId or generate credentials if they are missing?
 - Back End: Are Ed-Fi connections no longer hard-coded?
- **Integration Testing**
 - Perform a very brief test to verify that the deployment was completed and the code is updated as expected.
 - Do the components work correctly after load?
 - Was integration successful?
- **Smoke Testing (Optional)**
 - Does the component function as expected?
- **Performance Testing**
 - Test the run time for loading substantial amounts of data.
- **Usability Testing**
 - Front End: Does the component function as designed across browsers?
 - What is the performance of different web browsers?
 - Front End: Is the UI display responsive and acceptable on a tablet?

- **End-to-End Testing**

- Do the user workflows function as expected?
 - Replicate user behavior for common/critical workflows.
- Front End and Back End: Does the product meet the stated requirements?
- Front end: Does it conform to the approved wireframes?