

# HCL Volt MX

## HCLSoftware Certified Volt MX 9.5 Expert Developer Certification Packet.

**HCLSoftware U**

**Creating a new generation of experts**



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## What is the HCLSoftware Certified Volt MX 9.5 Expert Developer Badge?

This certification exam is the final level in your HCL Volt MX certification journey. The HCLSoftware Certified Volt MX 9.5 Expert Developer Badge shows that you can build both Mobile and Web applications that illustrate a concrete understanding and key execution of product development principles. Creation of these applications will include reading and writing data using HCL Volt MX Iris & Foundry.

## Precertification Requirements

The HCLSoftware Certified Volt MX 9.5 Associate Developer certification and HCLSoftware Certified Volt MX 9.5 Professional Developer certification are precertification requirement to attempt this HCLSoftware Certified Volt MX 9.5 Expert Developer certification.

## How do I earn the HCL Volt MX Certified Expert Developer Certification?

The HCLSoftware Certified Volt MX 9.5 Expert Developer certification is earned when an applicant creates a project that is evaluated by the Digital Solutions Academy that passes all requirements as specified in the [HCLSoftware Certified Volt MX 9.5 Expert Developer certification rubric](#).

To aid in your background education and understanding of HCL Volt MX, it is recommended that you complete the self-paced or onsite delivery of the HCL Volt MX Bootcamp. This training is optional and not required to achieve the Expert Developer badge.

## What are the requirements for the HCL Volt MX Certified Expert Developer Certification?

Brief description.

- Applications built for earning HCL Volt MX Certified Expert Developer certification must satisfy all the requirements in the [HCLSoftware Certified Volt MX 9.5 Expert Developer certification rubric](#).

Channels to be supported.

- You must develop an application for Mobile and Responsive Web channels.
- The Mobile application must work successfully as a Native as well as Adaptive web type of application.
- The Mobile application must work on Android and iPhone platforms.
- The Responsive web application must have screen layouts created for Desktop as well as Mobile breakpoints.

### Subject of your application.

- The subject of your app is your choice. To create your Mobile and Responsive web applications, first think of a business industry that would benefit from what you will create. Build a use case for how the application will fulfil a need for the selected industry.
  - Here are a few Industry ideas and use cases to get you thinking:
    - Business Industries (non-conclusive)
    - Healthcare Insurance
    - Hospitality Industry (Hotels and Motels)
    - Construction
    - Automobile Manufacturing
    - Energy
    - Retail
    - Business Use Cases
    - Workflow Approval Process
    - Inspection
    - Event Management
- The application must contain key functional requirements that demonstrate your working knowledge and skills using HCL Volt MX Iris and Foundry.
- The Mobile application must allow you to select data from one source and save it to a different data source.
- The Responsive Web application must show an aggregate view of the data you've saved from the Mobile application.
- The application must have a way to search for data and display the results.
- The application must display the details in an organized and compelling fashion.

### Data for your application.

- Where you get the data that drives your app is your choice. Select data that you can build around your use case and business industry. Create an application's use case that not only illustrates your knowledge of building applications, but one that may be useful or valuable to others.
- Be sure that the data supports for implementing the search and filter requirements for a compelling application. It is also recommended that you find data that can provide image or geolocation. This will allow you to incorporate the Camera and/or Map widgets.
  - Here are some example data Sources:
    - <https://github.com/public-apis/public-apis>

Note: HCL neither support nor maintain the above-mentioned public APIs provided by this source.

### Must use features of HCL Volt MX in your application.

- The application must use two micro apps and one super app.
- The application must have a common micro app implemented.

- The common micro app must hold all the reusable resource, such as,
  - Image asserts
  - Style constants
  - Skins
  - Templates
  - Components
- The common micro app must be linked to other micro apps with resource sharing enabled.
- The application must use,
  - Action editor to implement some functionalities.
  - Coding in form controllers to implement some functionalities.
  - RequireJS modules to implement some functionalities.
- The Mobile application must include at least 3 screens.
  - Login screen
    - It must have "Save my username" functionality.
    - Include your company logo AND a background image.
    - All widgets in this form must not use default skins.
    - Use the Foundry User Store Identity provider for authentication.
    - Capture profile information after login to display the current logged in user on other screens.
  - Home screen
    - This should be the main screen after you've logged in.
    - Logged in user should be clearly displayed.
    - Include options to search for data and navigate between screens.
    - Include options to navigate between multiple micro apps from the super app home screen.
    - All screens should have a common header and footer created as a component.

#### Must follow coding standards.

- Do not keep the default names for your widgets. Always use proper naming conventions to the widgets, variables, JavaScript modules, function names, templates, components.
- Your code must be clean, consistent, and understandable for review.
- Use RequireJS modules for implementing reusable code.
- Do not repeat code in multiple JavaScript modules.

#### Limit data calls from Iris application to Foundry.

- Determine when data should be cached and when it shouldn't so that current data is shown when navigating between screens.
- Support data flow from one form to the other (and back).
- Present how you are caching data or manipulating and be prepared to review the code you've written.

## Scoring

Applications built for earning HCL Volt MX Certified Expert Developer certification must satisfy all the requirements in the [HCLSoftware Certified Volt MX 9.5 Expert Developer certification rubric](#).

## Disclaimers

According to codequiry.com, source code plagiarism is defined as copying or reproducing source code without written permission from the original creator. That includes adapting the code minimally, moderately or including fragments of the original author's code in your own code.

We understand that in the “real world”, there are many online sources (Google, Stack Overflow), colleagues, co-workers, and friends that can provide you with assistance while developing code for projects and applications.

However, you are agreeing that when you submit your project to earn the HCL Volt MX Expert Developer certification, that:

- You completed the work yourself,
- You did not copy someone else’s code or fragments thereof,
- Someone else did not do the work on your behalf.

## Certification Review Process

- Develop
  - Using the [HCLSoftware Certified Volt MX 9.5 Expert Developer certification rubric](#) and additional requirements in this packet, build your mobile and responsive web applications. Ensure that they include all requirements as specified.
- Prepare to present your work.
  - When you have completed your applications, prepare to present your project to an HCL Volt MX experts.
  - Create the [HCLSoftware Certified Volt MX 9.5 Expert Developer Project Presentation Checklist](#).
- Schedule a review of your submission.
  - Request to schedule your “HCLSoftware Certified Volt MX 9.5 Expert Developer Certification Review” by [filling out the form](#).
- Deliver
  - Once you have received a meeting invitation from the HCLSoftwareU team, show our experts what you’ve developed, following the [HCLSoftware Certified Volt MX 9.5 Expert Developer Project Presentation Checklist](#).
- Results
  - After your scheduled presentation, the HCLSoftwareU team will review your score and inform you of your results within 3-5 business days.

## HCLSoftware Certified Volt MX 9.5 Expert Developer Project Presentation Checklist

- ✓ Working Mobile native and Mobile adaptive web applications on iPhone and Android platforms.
- ✓ Working Responsive web application.
- ✓ Screenshots or brief video showing the applications' capabilities.
- ✓ Presentation that includes,
  - Targeted Industry
  - Use Case / User Story
  - Live Demo of the Mobile Application (Showcasing Rubric Specs)
  - Live Demo of the Responsive Web Application (Showcasing Rubric Specs)
- ✓ Project Source Code & Files

### Important notes:

- The HCLSoftwareU team will not review or validate projects that do not work.
- You will only have two submissions. If you fail on the second submission, you will need to create a new project for your certification with a new backend data source and UI.

## HCL Volt MX 9.5 Expert Developer Project Showcase

Those candidates who supply especially captivating and powerful mobile and web applications that clearly demonstrate their development skills and the capabilities of HCL Volt MX product will be selected to receive special recognition in the HCLSoftwareU Project Showcase.

If you are selected, we will include your photo, bio, project details on the HCLSoftwareU website! We will also promote your project as a demo to customers and partners seeking to understand features, functions, and capabilities across industries.

## HCLSoftware Certified Volt MX 9.5 Expert Developer certification rubric

Application must be available on below platforms	Achieved
iOS	
Android	

Application must be available on below channels	Achieved
Native	
Adaptive web	
Responsive web	

Application must use the super apps – micro apps capability of Volt MX platform	Achieved
One micro app must have shared resources that are used in the super app	

Minimum number of screens (forms) in the application	Achieved
Application must have a minimum of five screens	

UI design	Achieved
<p>Review the videos of some sample mobile and web apps and build your application UI to be as intuitive as these samples</p> <p>Government Citizen Mobile App:  <a href="https://hclsoftwareu.hcltechsw.com/images/Lc4sMQCcN5uxXmL13gSlsxCINTU3Mjc3NTc4MTc2/HCL_Volt_MX/Badges_Certs/Expert_Developer_Videos/GovtCitizenApp.mp4">https://hclsoftwareu.hcltechsw.com/images/Lc4sMQCcN5uxXmL13gSlsxCINTU3Mjc3NTc4MTc2/HCL_Volt_MX/Badges_Certs/Expert_Developer_Videos/GovtCitizenApp.mp4</a></p> <p>Government Employee Web App:  <a href="https://hclsoftwareu.hcltechsw.com/images/Lc4sMQCcN5uxXmL13gSlsxCINTU3Mjc3NTc4MTc2/HCL_Volt_MX/Badges_Certs/Expert_Developer_Videos/GovtEmployeeApp.mp4">https://hclsoftwareu.hcltechsw.com/images/Lc4sMQCcN5uxXmL13gSlsxCINTU3Mjc3NTc4MTc2/HCL_Volt_MX/Badges_Certs/Expert_Developer_Videos/GovtEmployeeApp.mp4</a></p>	
<p>Application must follow all the applicable UI guidelines from the below mentioned documentation</p> <p><a href="https://opensource.hcltechsw.com/volt-mx-docs/docs/documentation/Iris/app_design_dev/Content/UI_Guidelines.html">https://opensource.hcltechsw.com/volt-mx-docs/docs/documentation/Iris/app_design_dev/Content/UI_Guidelines.html</a></p>	
<p>Application must use style constants and skins for defining the UI look and feel of each widget on the screens</p> <ul style="list-style-type: none"> <li>Application must have minimum of two themes defined</li> <li>Application must have an option for the end user to be able to switch between the two themes</li> </ul>	
<p>Components</p> <ul style="list-style-type: none"> <li>All the screens in the application except for the login screen must have a common Header and Footer</li> <li>All the screen in the application except for the login screen must have a common hamburger menu</li> </ul>	



<ul style="list-style-type: none"> <li>The common header, footer, and hamburger menu across all the screens in the application must be created as either components without contract or components with contract</li> </ul>	
<b>Widgets</b> <ul style="list-style-type: none"> <li>Application must have a minimum of <b>ten</b> widgets selected from the following collection (FlexContainer, Label, TextBox, Image, Button, CheckboxGroup/ListBox/RadioButton, Segment, Map, Camera, Browser, Calendar, DataGrid, RichText)</li> </ul>	
<b>Segment widget requirement</b> <ul style="list-style-type: none"> <li>Application must show data in segments using sections</li> <li>Application must use templates for defining the UI for a segment widget's rows and sections</li> </ul>	
<b>Map widget requirement</b> <ul style="list-style-type: none"> <li>Application must use a custom callout for Map widget</li> </ul>	
<b>Application must have a login functionality implemented</b> <ul style="list-style-type: none"> <li>Login screen must have a company logo</li> <li>Remember username functionality must be implemented on the login screen</li> <li>User Repository identity service integration must be used in the login functionality</li> <li>Application must support multiple logins (users)</li> <li>Application must support showing individual data for the logged in user in the mobile application AND aggregate/filtered data for all users in the Web application</li> </ul>	
<b>Application must display a welcome message with user full name on the landing screen</b> <ul style="list-style-type: none"> <li>The user's full name must be fetched by using the Get User Profile action</li> </ul>	
<b>User Profile</b> <ul style="list-style-type: none"> <li>Application must have an option to capture user's profile picture using Camera widget and display the user profile picture on the landing page using Image widget</li> </ul>	
<b>Responsive web</b> <ul style="list-style-type: none"> <li>All screens in the responsive web application must have minimum three break points defined</li> <li>All screens in the responsive web application must have different UI layouts defined for each of the break points</li> </ul>	

<b>UX implementation</b>	<b>Achieved</b>
<b>Animation</b> <ul style="list-style-type: none"> <li>Application must have a move animation implemented for the common hamburger menu on all the screens</li> </ul>	
<b>Loading Indicator</b> <ul style="list-style-type: none"> <li>Application must show loading indicators while a service call is in progress</li> </ul>	
<b>i18n requirements</b> <ul style="list-style-type: none"> <li>Application must be internationalized</li> <li>Application must have support for minimum three locales</li> <li>Application must provide an option to the end user on be able to change the locale of the application</li> <li>Application must show interstitial screen while the end user tried to change the locale</li> </ul>	
<b>Gestures</b>	

<ul style="list-style-type: none"> <li>Application must have gestures implemented wherever applicable</li> </ul>	
<p>Application Timeout support</p> <ul style="list-style-type: none"> <li>After login, idle timeout should trigger after a period of inactivity</li> <li>When idle timeout happens, application must automatically logout and navigate to login screen</li> </ul>	
<b>Low-code features</b>	<b>Achieved</b>
Application must use the low code action editor to implement some of the functionalities	
<b>Pro-code features</b>	<b>Achieved</b>
Application must write code in form controllers to implement some of the functionalities	
Application must write code in common shared modules to implement some of the functionalities	
<p>Application must follow all the applicable JavaScript guidelines from the below mentioned documentation</p> <p><a href="https://opensource.hcltechsw.com/volt-mx-docs/docs/documentation/Iris/app_design_dev/Content/JavaScript_Language_Rules.html">https://opensource.hcltechsw.com/volt-mx-docs/docs/documentation/Iris/app_design_dev/Content/JavaScript_Language_Rules.html</a></p>	
<p>Application must follow all the applicable JavaScript coding standards from the below mentioned documentation</p> <p><a href="https://opensource.hcltechsw.com/volt-mx-docs/docs/documentation/Iris/app_design_dev/Content/JavaScript_Coding_Standards.html">https://opensource.hcltechsw.com/volt-mx-docs/docs/documentation/Iris/app_design_dev/Content/JavaScript_Coding_Standards.html</a></p>	
<p>Application must follow all the applicable coding guidelines from the below mentioned documentation</p> <p><a href="https://opensource.hcltechsw.com/volt-mx-docs/95/docs/documentation/Iris/app_design_dev/Content/Coding_Guidelines.html">https://opensource.hcltechsw.com/volt-mx-docs/95/docs/documentation/Iris/app_design_dev/Content/Coding_Guidelines.html</a></p>	
<p>Application must follow all the applicable performance management guidelines from the below mentioned documentation</p> <p><a href="https://opensource.hcltechsw.com/volt-mx-docs/95/docs/documentation/Iris/app_design_dev/Content/Performance_and_Memory.html">https://opensource.hcltechsw.com/volt-mx-docs/95/docs/documentation/Iris/app_design_dev/Content/Performance_and_Memory.html</a></p>	
<p>Application must follow all the applicable memory management guidelines from the below mentioned documentation</p> <p><a href="https://opensource.hcltechsw.com/volt-mx-docs/95/docs/documentation/Iris/app_design_dev/Content/Memory_Management_Guidelines.html">https://opensource.hcltechsw.com/volt-mx-docs/95/docs/documentation/Iris/app_design_dev/Content/Memory_Management_Guidelines.html</a></p>	
<b>Foundry integration</b>	<b>Achieved</b>

<p>Foundry identity services</p> <ul style="list-style-type: none"> <li>• Login functionality in the front-end application must make use of the Foundry identity services</li> <li>• Login functionality must be supported for more than one user</li> </ul>	
<p>Foundry integration services</p> <ul style="list-style-type: none"> <li>• Must use a publicly available external data service</li> <li>• If needed, API keys or information on how to obtain a key must be shared</li> </ul>	
<p>Foundry object services</p> <ul style="list-style-type: none"> <li>• The front-end application must make use of the Foundry Data Storage object services</li> </ul>	
<p>Foundry Custom Coding</p> <ul style="list-style-type: none"> <li>• Application should make use of pre / post processors for integration services wherever applicable</li> </ul>	
<p><b>Iris extensibility</b></p> <ul style="list-style-type: none"> <li>• Application must have a “About” screen implemented</li> <li>• On this “About” screen, show: <ul style="list-style-type: none"> <li>○ Application version</li> <li>○ Operating system of the end user’s device.</li> <li>○ Operating system version.</li> </ul> </li> <li>• NFI must be implemented to achieve this “About” functionality in the application</li> </ul>	<p><b>Achieved</b></p>

## Legal Statements

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