

HDX-DEV-200 Web Content Development



Edition February 2025

Herbert Hilhorst – <u>herbert.hilhorst@hcl-software.com</u> Tim Golledge – <u>tim.golledge@hcl-software.com</u>

Table of Contents

Author(s)	. 3
Introduction	. 4
Prerequisites	. 5
Lab Overview	. 6
Part 1: Use DX Promotion Content as Headless JSON Content	. 9
Part 2: Move Menu Component to List Presentation	15
Part 3: Allow Business Users to Select and What and How to Display as a List	20
Part 4: Use DX Promotion Content List as Headless JSON Content	30
Part 5: Add a Styled List Presentation	35
Conclusion	41
Resources	42
Legal statements	43
Disclaimers	44

Author(s)

This document was created by the following Subject Matter Experts:



Herbert Hilhorst Company: HCLSoftware

Bio

Herbert Hilhorst is an HCL Digital Experience (DX) Technical Advisor at HCLSoftware.

Contact: Herbert.hilhorst@hcl-software.com



Tim Golledge Company: HCLSoftware

Bio

Tim Golledge is an HCL Digital Experience (DX) Technical Advisor at HCL.

Contact: tim.golledge@hcl-software.com

Introduction

This hands-on lab introduces you to intermediate development topics of HCL Digital Experience (DX) Web Content Manager (WCM). It continues the beginner lab.

In this DX developer lab, you play the role of Gene, a developer for the fictitious Woodburn Studio company.



Gene Hayes, Developer, based in Chicago (USA)

As a DX Web Developer, you will experience how quick and easy it is to further develop Web Content. You will create a JSON Promotion Presentation Template to create and render DX Promotions in JSON format. You will also move the presentation of your Promotions menu component to a new List Presentation Component, allowing you to easily share it.

You will also create a new List content type that allows a business user to select what content and how to show it. And then you will add a JSON list presentation for the promotions.

Optionally, you may add a better styled list presentation.

Prerequisites

- 1. Completion of <u>HDX-INTRO</u>, <u>HDX-BU-100</u>, <u>HDX-BU-200</u> and <u>HDX-DEV-100</u> courses, including the labs and specially the HDX-DEV-100 Web Content Development lab, as this labs extends that work.
- Access to download the Lab Resources. In the same place where you have found this lab, you will find corresponding resources which you may download and unzip in your Desktop. This helps you to run the lab more easily, and you may later replace them by your own ones.

You will be using the following user IDs and passwords:

Purpose	User	Password
SoFy Login	Your official email id	Your password
DX Login	ghayes (or wpsadmin)	HCL-Dem0 (or wpsadmin)

Lab Overview

In this lab there are several parts to get you started developing with the DX Web Content Manager. These are shortly introduced now.

Part 1: Use DX Promotion Content as Headless JSON Content

You will learn how to create a new JSON Presentation Template to show the DX content in JSON format and corresponding Promotion Presentation Template and change the MIME-type to JSON.

←	\rightarrow	G	20	dx.				/wps/mypor	tal/caas?c	urrent=true	&uril	e=wcm:p	bath:we	eb%20	content	articl	es/dx%2	0promoti	on&min	ne-type=a	application/j
Pret	tty-µ	orint																			
{	"id "ti "pro "lin "ima	': "3 tle": oduct nkurl ageur	58f8 "DX id": ": "	535–1 Prom "DX0 https "/dx/	ffe-4 otion 03", ://ww api/o	4f6c n", ww.h dam∕	-balf- cl-sof v1/col	-40480d8c tware.co	40a1", m/dx", /e0334e	33-b91f-	-401	.d–a35a	a-e94	6e433	3944e,	/item	ns/d1c	482b8-0	e51b-4	4bed–at	odc-92060€
	ſō	Ele	ments	Co	onsole	Sc	ources	Network	Perform	nance I	Mem	ory A	pplica	ition	Secu	rity	Ligh	nthouse	Reco	order	
	\oslash	T	Q	□ P	reserv	e log		isable cach	e No thr	ottling	• '	(î\$ ↓	: ±								
Y	Filte	r					nvert	More filte	rs 🔻 📶	Fetch/>	KHR	Doc	css	JS	Font	Img	Media	Manifes	st WS	Wasm	Other
J		20	ms		4	10 ms		60 ms		80 ms			100 m	s		120	ms		140 ms		160 ms
Nan	пе				×	Hea	ders	Payload	Preview	Respon	se	Initiato	or T	iming	Coc	okies					
(i) (aas?	curren	t=true	&u	Conte	ent-Ty	/pe:			applic	catio	n/json									
					Data					T	14 E e	- 000F 4	17.00.0		T						

Part 2: Move Menu Component to List Presentation

Learn how you may turn an existing Menu Component formatting to a List Presentation Component to allow this to be used in different places.

 Menu design properties
Results Primary Sort Key:
Attribute: Title \checkmark Display order: Ascending \checkmark
Results Secondary Sort Key:
Attribute: Title \checkmark Display order: Ascending \checkmark
Results Tertiary Sort Key:
Attribute: Title \checkmark Display order: Ascending \checkmark
Formatting:
O Use default design fields
Use a list presentation
*Default list presentation: Select List Presentation -
Web Content / List Presentations / Simple Promotion List 🗶
Save and Close - Read Preview Close
* Required Fields

HDX-DEV-200 WEB CONTENT DEVELOPMENT FOR BEGINNERS

Part 3: Allow Business Users to Select and What and How to Display as a List

Learn how you may use a configure content to allow business users to select what contents and how to display them as a list. Create a new List Content Template and corresponding Presentation Template with elements to select what and how to display and test it.

Web Content Viewer (Contextual)
Promotion: DX Promotion
Product ID: DX003
Link: HCL Digital Experience Home Page!

Promotion: Volt MX Promotion Product ID: MX002 Link: HCL Volt MX Home Page

List Configuration

Title		
Promot	tion List	
Menu C	Component:	
Promot	ions	
List Pre	esentation:	
Simple	Promotion List	

Part 4: Use DX Promotion Content List as Headless JSON Content

And create a new JSON List Presentation Component with JSON format for your promotion content and use a new list content configured to show you promotions using the JSON format and change the MIME-type to JSON again.

←	\rightarrow G	°₀ dx.		/wps/myportal/caas?current	=true&urile=wc	n:path:web%20co	ontent/articles/Pro	motion+List&mim	ne-type=application/jsc	'n
Pret	ty-prin	t 🗌								
[{ 4fe7 4d35 norm Roma	"id": " "title" "produc "linkur -b3d1-f. "fileur -a720-f. "body": al; mar n\u0027	358f853 : "DX P tid": "H l": "ht ac5b3b0 l": "/d ac70cae =70cae =70cae ; st gin: 0ci , serif	5-1ffe-4f6c-balf- comotion", XX03", :ps://www.hcl-sof Xx/api/dam/v1/col X82c7binary=true" 4ed7binary=true" /le=\"margin: 0cm n 0cm 8pt; font-s: \"HCL Digital E;	<pre>\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$</pre>	91f-401d-a3 1f-401d-a35 ht: 107%; f ily: Calibr >\n <p s<="" th=""><th>5a-e946e4339 a-e946e43394 ant-size: 1 i, sans-ser: tyle=\"line-</th><th>944e/items/d1 44e/items/6a2 1pt; font-fam if;\"><spz -height: norm</spz </th><th>20482b8–e51b- 212ce5–500d–4 hily: Calibri on style=\"fo nal; margin:</th><th>-4bed-abdc-92060 4ab7-8505-dd80ao i, sans-serif;\' ont-size: 24.0p 0cm 0cm 8pt; fo</th><td>26 c4 t;</td></p>	5a-e946e4339 a-e946e43394 ant-size: 1 i, sans-ser: tyle=\"line-	944e/items/d1 44e/items/6a2 1pt; font-fam if;\"> <spz -height: norm</spz 	20482b8–e51b- 212ce5–500d–4 hily: Calibri on style=\"fo nal; margin:	-4bed-abdc-92060 4ab7-8505-dd80ao i, sans-serif;\' ont-size: 24.0p 0cm 0cm 8pt; fo	26 c4 t;

HDX-DEV-200 WEB CONTENT DEVELOPMENT FOR BEGINNERS

Optional Part 5: Add a Styled List Presentation

Optionally, you may learn how to use styling to build nicer UIs for your content. You will configure your theme to use Material Design for Bootstrap styling and create a new List Presentation to show your promotions using this styling.



Part 1: Use DX Promotion Content as Headless JSON Content

In this part, you will learn to create a new JSON Presentation Template to show the DX Promotion content in JSON format and change the MIME-type to JSON.

1. First create the new JSON presentation template. On the server where the DX Solution Modules has been installed, next to **Woodburn Studio Home Page**, click **Open**.

DX Solution Modules		HCL Digital Experience
Deployed Sandbox Expires	1	Business Solution Examples
X Sandbox Links	^	HCL Digital Exp Solution Modul
Demo Home Page Login ID Password	Open wpsadmin	HCL Digital Experience (DX) is the fast Digital Experiences with any Content, Ap and deliver engaging omnichannel digita targeted offers, seamlessly integrated ar
Woodburn Healthcare Home Page	Open	mobile, hybrid mobile/web applications, It is a web content manager and web po complex online sites. Customers use it to
Woodburn Stores Home Page 	Open	DX Solution Modules I

2. Log on to the DX server as Gene Hayes. Click Log in.



 Then use the credentials of Gene (User ID: ghayes, Password: HCL-Dem0 – if you do not have these, you may use the default administrator account with User ID: wpsadmin, Password: wpsadmin)

	Login	
User ID ghayes		
Password		Ø
	LOG IN	

4. Then go the Web Content library in the Practitioner Studio. Open the applications menu and click **Web Content, Authoring, Library Explorer**, **Web Content** web content library and close the Sidebar.

Publishe	ed Site ▼		D	ඛ	_ : Ż _A Er	nglish 🔻	
← 6	Back Q : X		Home				
Web	Content	Home	Web Content		ary Explo	rer 😭	
		- Library Ex	Digital Assets		Web Content		
:	Content Composer	▶ Item Views	Site Templates		Generate -	Read	Edit
Q	Authoring	Project View	Personalization		More -	Close	
Ē	Content Reporting	▶ Group By V	Themes				
	Preview	Personal Vi	Administration		ie	Desc	ription
	Web Oratest Liberaise	(?) Help	Help Center		ntent	Use	this viev
	web Content Libraries	⊸ Open Vie	Support		nponents	Use	this viev
Ŋ	Syndicators	🗖 Home		► 🔲 A	uthoring Templa	tes Use	this viev
റ്റ	Subscribers	Elbrary E	cpiorer X	► 🏭 P	resentation Temp	olates Use	this viev

5. And create the new JSON Presentation Template for promotions. Click **New**, **Presentation Template**.

	olorer	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
New 🚽 Generate 🚽	Rea	ad	Edit	Delete
Authoring Template	•			
Category				
🖷 Component	•		Descri	ption
E Content	•		Use th	is view to e
E Folder			Use th	is view to e
Presentation Templat	te		Use th	is view to e
Project Pres	entation Tem	plate	Use th	is view to e
🕀 Project Templete				

HDX-DEV-200 WEB CONTENT DEVELOPMENT FOR BEGINNERS

6. Name it Promotion.json, give it a description, like JSON presentation of promotion content and use the following Presentation Template Options that uses the Promotion content properties and elements in the right formats (using encoding and escaping) in a JSON object. Notice the CopyText plugin that removes the default HTML encoding of the title property and uses JSON escaping. You may import this from your downloaded resource promotion.json.html, copy from below or use the tag helpers to construct this:

{	
	"id": "[Property field='id']",
	"title": "[Plugin:CopyText text='[Property field="title" htmlencode="false"]' escape='json']",
	"productid": "[Element key="Product ID"]",
	"linkurl": "[Element key="Promotion Link" format="url"]",
	"imageurl": "[Element key="Promotion Banner" format="url"]",
	"fileurl": "[Element key="Brochure"]",
	"body": "[Plugin:CopyText text='[Element key="Body"]' escape='json']"
}	

- 7. It should look like below.
 - Untitled

Created by	Gene H	ayes					
Save and Close	•	Add To Project	Add Workflow	Close			
Presentation Ten	nplate	Properties					
*Name: 🕐							
Promotion.json							
Display title: 🕐 Lo	ocaliza	tions					
Description: Loca	lization	IS					
JSON presentation	n of pro	pmotion content	1				
*Location: Select Web Content	Locati	on 🔻					

Fresentation Template Options



8. Then click Save and Read.



9. Then preview it with any of the promotion content, e.g. the DX Promotion. Click **Preview**.



10. Then select your DX Promotion content under Articles. Click Articles.

Preview.								
Select the site area to use as a rendering context when previewing:								
Views: All Recent Items Favorites								
Libraries Veb Content								
Filter								
Type Title								
○ ▶ 品 Articles								

11. And then **DX Promotion** and click **OK**.

Preview								
Select the site area to use as a rendering context when previewing:								
Views: All Recent Items Favorites								
Libraries Web Content > Articles								
Filter								
Type Title								
⊖ 📇 Articles								
Contents of Articles:								
◯ 📑 Sample Article								
O 📑 Sample Article 2								
OX Promotion								
O E Volt MX Promotion								
Show: 10 25 50 items per page								
OK Cancel								

HDX-DEV-200 WEB CONTENT DEVELOPMENT FOR BEGINNERS

12. It should open a new page that looks like this. Check the URL that shows its current content (Web Content/Articles/DX Promotion) selection with the specific presentation template (Promotion.JSON):

https://dx.sbx0000.play.hclsofy.com/wps/wcm/myconnect/web%20content/articles/dx%20pro motion?presentationtemplate=Promotion.json

\n

HCL Digital Experience

13. Then use the View Page Source and you'll see it is a well-defined JSON object.

\leftarrow	\rightarrow	G	() view-source:https://dx.	/wps/wcm/myconnect/web%20content/articles/dx%20promotion?presentationte
Line	wra	ap 🗌		
1	{			
2		"id"	<pre>': "358f8535-1ffe-4f6c-ba1f-404</pre>	80d8c40a1",
3		"tit	le": "DX Promotion",	
4		"pro	ductid": "DX003",	
5		"lin	kurl": "https://www.hcl-softwa	re.com/dx",
6		"ima	geurl": "/dx/api/dam/v1/collec	tions/e0334e33-b91f-401d-a35a-e946e433944e/items/d1c482b8-e5
7		"fil	.eurl": "/dx/api/dam/v1/collect	ions/e0334e33-b91f-401d-a35a-e946e433944e/items/6a212ce5-500
8		"bod	ly": " <p 0c<="" 0cm="" style='\"margin:' th=""><th><pre>m 8pt; line-height: 107%; font-size: 11pt; font-family: Cali</pre></th></p>	<pre>m 8pt; line-height: 107%; font-size: 11pt; font-family: Cali</pre>
9	}			

14. You may use **Network** – **Headers** to discover that the MIME-type, or here Content-type, is currently HTML text.

Name	×	Headers	Payload	Preview	Respons	e Initiator	Timing	Cookies	
E LOIDU1NTUSEhL3dH	Cont	ent-Type:			text/ht	tml; charset=U	TF-8		
dx%20promotion?pre	Date	:			Tue, 1	1 Feb 2025 14:	53:44 GM	т	

15. To change the MIME-type, use the Content as a Service page. Load the same content using the CaaS page URL configured with the DX Promotion content, Application/JSON mime-type and Promotion.json presentation template:

https://dx.sbx0000.play.hclsofy.com/wps/myportal/caas?current=true&urile=wcm:path:web%2 0content/articles/dx%20promotion&mimetype=application/json&pagedesign=Web+Content/Promotion.json



You have successfully created a JSON presentation template for your promotions and used it to generate the promotion in JSON formats and MIME-type.

Part 2: Move Menu Component to List Presentation

Learn how you may turn an existing Menu Component formatting to a List Presentation Component to allow this to be used in different places.

1. Go to the Web Content Authoring to first create the new folder to store this and other list presentations. Ensure you are in the **Components** view under the Web Content web content library, click **New** and **Folder**.



2. Name it **List Presentations** with description **Allows to easily select from available list presentations** and save it with **Save and Close**.

Created by Gene	Hayes		
Save and Close 👻	Add To Project	Add Workflow	Close
Folder Properties			
*Name: 🕐			
List Presentations			
Display title: <a>The Display Example: D	ations		
Description: Localization	ons		
Allows to easily select f	rom available list prese	ntations	
*Location: Select Loca	ation 🔫		

Web Content / Components

3. Then enter the List Presentations folder and click New, Component and List Presentation.

📃 Library Explorer 🛱								
Libraries Web Content	Components List Presenta	tions 🕨						
New - Generate -	Read Edit Delete	e Preview More - Close						
Current View								
Authoring Template								
category		Status Last Saved						
🖷 Component 🛛 🔸	Authoring Tools	No items to display.						
E Content	Component Reference							
E Folder	🚮 Date and Time							
III Presentation Template	File							
Project •	O HTML							
Project Template	🛃 Image							
🔇 Segment Group	🛐 JSP							
🚠 Site Area 🔹 🕨	Link							
📒 Taxonomy	Eist Presentation							
🖧 Workflow	List Presentation							
A	• • • • •							

4. Name it **Simple Promotion List**, give description **Very basic list presentation of promotions** and ensure the location is set to **Web Content / List Presentations**.



 Then use the same List Presentation Markup that is currently set in your Promotions Menu Component. Open it to copy. Click Web Content, Components, select Promotions and click Fdit

Lib	orary Explorer 🛱	
Libraries 🕨	Web Content Components	
New -	Generate → Read Edit	C
Filter		
🗌 Туре	Title	
🗆 🕨 🛅	List Presentations	
	Article Toolbar	
	Articles List	
	Promotions	

6. The List Paging Options are the same. Copy the List Presentation Markup Result design, Separator and No result design into your new List Presentation.

List Pres	sentation	Markup			
Use HTML to	define how	list results are pi	resented to your a	site visitors, incluc	ling a header, footer, and separator.
Header:					
Import	Export	Insert Tag	Insert Link	Insert Image	
Result desig	ın:				
Import	Export	Insert Tag	Insert Link	Insert Image	
Promotior	n: [Prope	rty field="	title"]		
Product I	D: [Elem	ent key="Pr	oduct ID"] <b< td=""><td>or></td><td></td></b<>	or>	
Link: [El	lement ke	y="Promotio	n Link"]		
					1
Footer:					
Import	Export	Insert Tag	Insert Link	Insert Image	
					1
Separator:					
Import	Export	Insert Tag	Insert Link	Insert Image	
					i.
No secold de					
No result de	sign:				
Import	Export	Insert Tag	Insert Link	Insert Image	
No promot	ions fou	nd			
					1

HDX-DEV-200 WEB CONTENT DEVELOPMENT FOR BEGINNERS

7. And save your new List Presentation Component. Click Save and Close.



 And update your current Promotions Menu Component to use your new Simple Promotion List. Change the formatting to Use a list presentation and select your Web Content / List Presentations / Simple Promotion List. Then test it. Click Preview.

 Menu design proper 	ties	
Results Primary Sort Key:		
Attribute: Title	✓ Display order:	Ascending $$
Results Secondary Sort Ke	ey:	
Attribute: Title	✓ Display order:	Ascending $$
Results Tertiary Sort Key:		
Attribute: Title	✓ Display order:	Ascending $$
Formatting:		
O Use default design fields		
OUSE a list presentation		
*Default list presentation:	Select List Presenta	tion 🔽
Web Content / List Presentat	ions / Simple Promo	tion List 🗙
Save and Close 👻 R	ead Preview	Close
* Required Fields		

9. Select the **DX Promotion** and click **OK**.

Preview.	
Select the site area to use as a rendering context when preview	ing:
Views: All Recent Items Favorites	
Libraries Web Content > Articles	
Filter	
Type Title	Sta
⊖	Puł
Contents of Articles :	
○ 📑 Sample Article	Puł
O 📑 Sample Article 2	Puł
OX Promotion	Puł
O 🖶 Volt MX Promotion	Puł
Show: 10 25 50 items per page	
OK	

10. And you see the same list in the same format. Promotion: DX Promotion Product ID: DX003 Link: <u>HCL Digital Experience Home Page!</u>

Promotion: Volt MX Promotion Product ID: MX002 Link: <u>HCL Volt MX Home Page</u>

11. Now save your updated Menu Component. Click Save and Close.

Save and Close	-	Read	Preview	Close
* Required Fields				

You have successfully moved the List Presentation Markup from your Menu Component to a List Presentation Component, allowing it to be reused in other places.

Part 3: Allow Business Users to Select and What and How to Display as a List

Learn how you may use a configure content to allow business users to select what contents and how to display them as a list. Create a new List Content Template and corresponding Presentation Template with elements to select what and how to display and test it.

1. Go to the Web Content Authoring to first create the new List Content Template. Click **New**, **Authoring Template** and **Content Template**.



 Enter the name of the template List and give it a clear description, like Manage a list of content. Select the Web Content web content library as location and click Manage Elements to manage the elements needed for this template.



3. You want your business users to select what (using a Menu Component selection) and how (using a List Presentation selection) to show. Add these elements and click **OK**.

	Element Manager			
To If a	add a new element, select Display Title is not specifie	t an element type and ed, then the Name field	then enter a Name and d will be used instead.	d a Display Title.
	Element type:			
	Component Reference ~	·		
	*Name:			
	Display title:			
	Display Title Localization:	0		
	None	Ŧ		
	Add			
	Element type	Name	Display title	
	Component Reference	Menu Component	Menu Component	
	Component Reference	List Presentation	List Presentation	
				-
	OK Cancel			

4. Then remove the workflow. Click **Default Content Properties**, open the **Workflow** section and **uncheck** the **Enable workflow for items created with this authoring template**.

Content Template	Properties	Default Content	Default Content Properties					
Type: 🕒 Content								
Location: 🕒 Web Content								
UUID: 🕒 None								
Authors: 🕒 Add Au None	thors 🔻							
Owners: 🕒 Add Ow None	Owners: 🕒 Add Owners 🔻							
▶ 品 Content Pr	operties							
▶ 🔚 Profile								
▼ 🖧 Workflow								
Define the default workflow settings for items created using this authoring template.								
Enable workflow	for items cre	ated with this auth	noring template					
Hide section								

5. And save it. Click Save.

Created by Gene Hayes						
Sav	e and Close	-	Add To	Project	F	
S	Save				_	
Save and Read			Properties	Default Cor	itent	
s	Save as Draft					

6. Then create the corresponding List Presentation Template. Click **New**, **Presentation Template**.



7. Name it **List** and give it a description, like **Show a configured list**. Then insert the tags to select and render the Menu Component and List Presentation elements, and to allow business users to edit it easily with inplace editing. Click **Insert Tag**.

Created by G	ene Hayes			
Save and Close	▼ Add To Project	Add Workflow	Close	
Presentation Temp	late Properties			
*Name: 🕐				
Display title: Display title:	alizations			
Description: Localiz Show a configured I	ations ist			
*Location: Select L Web Content	ocation 🔻			
Presentation	Template Options			
Import	rt Insert Tag In	sert Element Tags	Insert Link	Insert Image

8. First, you want your Menu Component element to overwrite the context of your content. This is managed with the InContext tag. Select **In Context** tag type, **Autofill** as item context, to ensure works both in portlets and as standalone web content, and click **OK**.

Insert a Tag
Select the type of tag to create, and then define parameters for the selected tag. You can then either copy and paste the tag into insert the tag at the current cursor location.
Tag:
[InContext context="autofill"][/InContext]
Select a tag type: In Context \checkmark Select item context: Autofill \checkmark
Tag Description:
The InContext tag renders the tag body within a specified context. The new context can be specified as a predefined context
OK Cancel

9. Now set the context to your selected Menu Component elements. Put your cursor between the InContext tags and click **Insert Tag**.

Presentation Template Options							
Import	Export	Insert Tag	Insert Element Tags	Insert Link	Insert Image		
[InConte>	kt context	="autofill]][/InContext]				

10. Select the tag that displays the Menu Component element to set the portlet context to the current list content. Select Auto as source item type to make it work with the selected component that will select other content, Current as item context, from the Web Content - List Content Template the Menu Component element and click OK.

Insert a Tag
Select the type of tag to create, and then define parameters for the selected tag. You can then either copy and insert the tag at the current cursor location.
Tag:
[Element key="Menu Component" type="auto" context="current"]
Select a tag type:
Auto VI
Select item context: Current
Select the authoring template for elements to reference:
Web Content/List Select authoring template
Select the element to reference: Menu Component V
Tag Description:
The Element tag is used to reference an element within a presentation template or element design.
OK Cancel

11. Then you need to override the list presentation that is used to render any list by setting the request attribute ListPresentationId to the ID of the List Presentation to use. Set the ID to the List Presentation element and at the end, delete it. Insert the following code that manages this:

[Plugin:RequestAttribute key="ListPresentationId" compute="once" value="[Element context='current' type='content' key='List Presentation' format='id']"]

[Plugin:RequestAttribute key="ListPresentationId" mode="delete"]

12. Combined, it should look this.

III Presentation Template Options							
Import Export Insert Tag Insert Element Tags Insert Link Insert Image							
[Plugin:RequestAttribute key="ListPresentationId" compute="once" value="[Element context='current' type='content' key='List Presentation' format='id']"]							
[InContext context="autoFill"][Element context="current" type="auto" key="Menu Component"] [/InContext]							
[Plugin:]	RequestAt	tribute key	="ListPresentatior	nId" mode="d	elete"]		

HDX-DEV-200 WEB CONTENT DEVELOPMENT FOR BEGINNERS

13. And you may add the option to allow your business user to select the menu and list presentation components when in edit mode using inplace editing, using the following code (you may also get it from the downloaded file **list.html**, and feel free to style it to make it look better):

[IfEditMode]

<h2>List Configuration</h2>

Title: [EditableProperty field="title" format="div" mode="inplace"][Property field="title"]

[/EditableProperty]

Menu Component: [EditableElement key="Menu Component" type="auto" mode="inplace" context="current"] [Element type="auto" context="current" format="title" key="Menu Component"][/EditableElement]

List Presentation: [EditableElement key="List Presentation" type="auto" mode="inplace" context="current"] [Element type="auto" context="current" format="title" key="List Presentation"] [/EditableElement]

[/IfEditMode]

14. Then save it.

IIII Presentation Template Options

Import	Export Insert Ta	g Insert Element Tags	Insert Link	Insert Image				
<pre>[Plugin:RequestAttribute key="ListPresentationId" compute="once" value="[Element context='current' type='content' key='List Presentation' format='id']"] [InContext context="autoFill"][Element context="current" type="auto" key="Menu Component"][/InContext] [Plugin:RequestAttribute key="ListPresentationId" mode="delete"]</pre>								
[IfEditMode <h2>List Co Title: [Edi [/EditableP Menu Compon [Element ty List Presen context="cu [/EditableE [/IfEditMod</h2>] nfigurationtableProperty roperty] ent: [Editable pe="auto" cont tation: [Edita rrent"][Elemen lement] e]	2> field="title" format= Element key="Menu Com ext="current" format= bleElement key="List t type="auto" context	="div" mode= mponent" typ ="title" key Presentatio :="current"	"inplace"][Pr e="auto" mode ="Menu Compor n" type="auto format="title	coperty field="title"] e="inplace" context="curr ment"][/EditableElement] " mode="inplace" " key="List Presentation	ent"] "]		
Process Coni	nect Tags							

Save and Close	-	Read	Preview	Close
Save				
Save and Read	b			
Save as Draft				

15. Then associate the List Content Template with the Presentation Template. Edit the List Content Template again, set the Default Presentation Template to Web Content / List and save it

Libraries > Web Content > Authoring Templates > List
Elst Status - Published Last modified Yesterday 11:06:03 AM GMT by Gene Hayes Created by Gene Hayes
Save and Close - Read Preview Manage Elements Close
Content Template Properties Default Content Default Content Properties
*Name: 💿
List
Display title: Display title:
List
Description: Localizations
Manage a list of content
▼
Rendering type:
This is a content rendering template. To create a File Resource or Link rendering template, click manage elemen
can then select Resource or Link as the rendering type.
Default Presentation Template: ⑦ Select Presentation Template Web Content / List X Summary Presentation Template: ⑦ Select Presentation Template >

16. Then create your first list content to show the promotions, using this new List Content Template. Click **New, Content, Web Content / List.**



17. Name it **Promotion List**, description **List of promotions**, location **Web Content / Articles**, and use the existing **Promotions** menu component for both the Menu Component and **List Presentations / Simple Promotion List** for the List Presentation Component elements. Then click **Save and Read**.

E Untitled Created by Gene Hayes									
Save and Close 👻 Ad	d To Project	Show Hidden Fields							
Content Properties									
*Name: ?									
Promotion List									
Display title: (?) Localizations									
List of promotions									
		4							
*Location: Select Location - Web Content / Articles (Last cl	hild)								
▼ Menu Component									
Component:									
Select Component	1								
Web Content / Promotions									
 List Presentation 									
Component:									
Select Component									
web Content / List Presentations / Simple Promotion List									
Save and Close 🖵 Ad	d To Project	Show Hidden Fields							
Save									
Save and Read									

18. Then test it. Click Preview.



19. And you see the same list again.

Promotion: DX Promotion Product ID: DX003 Link: <u>HCL Digital Experience Home Page!</u>

Promotion: Volt MX Promotion Product ID: MX002 Link: <u>HCL Volt MX Home Page</u> 20. You may also show this in a page. For example, add it to the **Woodburn Studio Contact** page. Go to that page, ensure you are in edit mode, click the **Add page components and applications** icon, **Applications** and search for **Web Content Viewer**, add that to the page and close the toolbar.

<	Published Site 👻 Edit Mode	ON		D	۵	: ¢,	English 🔻	HCL (
Ŧ	← Back to home	€ P	Applications Unica Integration			Secro	: Site	×
	Site Manager		Applications					
	🗟 🖒 🛟 🍾	0	All - 2 Administration - 0 Collaboration - 0 > Sort: Title *	We	eb Conter	nt Viewer	×	
	Woodburn Studio ✓		Add application "Web Content Viewer" to the pag	e 'Contact'				~
	 [™] Home ← Home [™] MyWoodburn ← MyWo [™] Exhibitions ← Exhibitions [™] [™]		Default Link Web Content Viewer					BIEDVICES
	Products ← Products		1-2					
	 Image: Projects ← Our Projects Image: Blog ← Blogs Image: Contact 		Fountain Park FOUNTAINBRIDGE	Ť.	Th	e Universit f Edinburgh	y	NO.

21. Then configure it to show your List Promotions content. Open the portlet menu and click **Edit Shared Settings**.

		•
ecurrent page. To assoc	Edit Shared Settings	
Settings mode of the We	Configure	

22. Click Edit to set the content to Web Content / Articles / Promotion List.

Web Content Viewer
▼ Content
Content Behavior (Reset)
Select content and path
Select content and use the content association of current page
O Use rule to select content
Content (Reset)
Web Content / Articles / Promotion List
Edit Clear
Appearance (Reset)
Default Presentation

23. Scroll down and click **OK** to save.

► Advan	ced Option	IS		
ок	Apply	Help	Cancel	Clear page context

HDX-DEV-200 WEB CONTENT DEVELOPMENT FOR BEGINNERS

24. You see the list on the top and the inplace edit options to set the title and select the menu component and list presentation.

Web Content Viewer (Contextual)				
Promotion: DX Promotion				
Product ID: DX003				
Link: HCL Digital Experience Home Page!				
Promotion: Volt MX Promotion				
Product ID: MX002				
Link: HCL Volt MX Home Page				
List Configuration				
Title				
Promotion List				
Menu Component:				
Promotions				

List Presentation: Simple Promotion List

25. And notice that if you disable the edit mode, it just shows the list again.

<	Published Site 👻 Edit Mode	OFF
Ŧ	← Back to home	Promotion: DX Promotion Product ID: DX003 Link: HCL Digital Experience Home Page!
	≞ b * * Ø	
	🛞 Woodburn Studio 🕞	Promotion: Volt MX Promotion Product ID: MX002 Link: HCL Volt MX Home Page
	Woodburn Studio & Additio Home & Home MyWoodburn & MyWo Exhibitions & Exhibitions Products & Products Projects & Our Projects Blog & Blogs Contact Accurate	LIKE Woodbur OUR practice i effort, she WORK? Ask us eve

You have successfully created and tested a configurable list content.

Part 4: Use DX Promotion Content List as Headless JSON Content

In this part, you will create a new JSON List Presentation Component with JSON format for your promotion content and use a new list content configured to show you promotions using the JSON format and change the MIME-type to JSON again.

1. Go to your List Presentations folder under Components and click New, Component and List Presentation Template.

🚬 Library Explorer 🕸						
Libraries Web Content	Components List Presenta	tions 🕨				
New - Generate -	Read Edit Delete	e Preview More - Close				
Current View						
Authoring Template						
Category		Status Last Saved				
🗗 Component	Authoring Tools	No items to display.				
E Content	Component Reference					
E Folder	🛃 Date and Time					
Presentation Template	🚹 File					
Project •						
Project Template	🛃 Image					
🔇 Segment Group	🛐 JSP					
🚠 Site Area	🧭 Link					
📒 Taxonomy	Eist Presentation					
🖧 Workflow	List Presentation					
<u>.</u>	· · · · ·					

2. Name it **Promotion List.json**, give description **List presentation of promotions in JSON format** and ensure the location is set to **Web Content / List Presentations**.



HDX-DEV-200 WEB CONTENT DEVELOPMENT FOR BEGINNERS

 Then reuse the presentation design from the Promotion.json Presentation Template and configure the Header with a JSON list opener [, under Result design 1 add context="autofill" to let the presentation template choose the right content, add the JSON Footer], and Separator , and use [] for No result design. Then save it and click Save and Close.

List Presentation Markup						
Use HTML to define how list results are presented to your site visitors, including a header, footer, and separator.						
Use a separate design for items with no children ③						
Show header, footer, and separator fields for each r	esult design 🔊					
Header:						
Import Export Insert Tag Insert Lini	k Insert Image					
[
Result design 1:						
Import Export Insert Tag Insert Lin	k Insert Image					
"id": "[Property field='id']", "title": "[Plugin:CopyText text=' "productid": "[Element key="Produ "linkuri": "[Element key="Promoti "imageuri": "[Element key="Promot "fileuri": "[Element key="Brochur "body": "[Plugin:CopyText text='[]	<pre>[Property field="title" context="autofill" <u>htmlencode</u>="false"]' escape='json']", ct ID" context="autofill"]", on Link" context="autofill" format="url"]", ion Banner" context="autofill" format="url"]", e" context="autofill"]", Element key="Body" context="autofill"]' escape='json']"</pre>					
Footer: Import Export Insert Tag Insert Lini	< Insert Image					
Separator:						
Import Export Insert Tag Insert Lini	k Insert Image					
·	,					
No result design:						
Import Export Insert Tag Insert Lin	k Insert Image					
[]						
Save and Close 👻 Add To Project Add	Result Design Add Workflow Close					

 And test it on the Woodburn Studio Contacts page first to update the Promotion List to use your new List Presentation. Ensure it is in edit mode, click Simple Promotion List, select Promotion List.json and click OK.

	Published Site 👻 Edit Mode) ON			6	3
Ŧ		e I	_ist Configuration			
	Site Manager	1	Fitle:			
	🖹 🖻 🛟 🍫	e M	Promotion List Menu Component: Promotions			
	Woodburn Studio		List Presentation Simple Promotion List			
	Woodburn Studio & Additio Home & Home MyWoodburn & MyWo Exhibitions & Exhibitions Nrducts & Products		LIKE	elect the component that will be referenced in this content. Views: All Recent Items Favorites Libraries + Web Content > List Presentations		
	Projects ← Our Projects Blog ← Blogs		WO	Filter		
	Contact)		Promotion List.json Public	ished	То
	About Us		Woodburr ideas, con	O I Simple Promotion List Publi	ished	To
			Ask us eve			
			CONT	Show: 10 25 50 Items per page		
٥				OK None Cancel		_

5. Click Save.

Promotion List Menu Component: Promotions List Presentation Simple Promotion List Veb Content / List Presentations / Promotion List,json Select Component Save Cancel	Title:	
Menu Component: Promotions List Presentation Simple Promotion List	Promotion List	
Promotions List Presentation Simple Promotion List Component: Web Content / List Presentations / Promotion List.json Select Component Save Cancel	Menu Component:	
List Presentation Simple Promotion List Component: Web Content / List Presentations / Promotion List.json Select Component Save Cancel	Promotions	
Simple Promotion List Component: Web Content / List Presentations / Promotion List.json Select Component Save Cancel	List Presentation	
Component: Web Content / List Presentations / Promotion List.json Select Component Save Cancel	Simple Promotion List	
Component: Web Content / List Presentations / Promotion List.json Select Component Save Cancel		
		eb Content / List Presentations / Promotion List.json Select Component Cancel

6. Then refresh the page and you see it as a JSON list of promotions.

Web Content Viewer (Contextual)	Ē₹ □ ₹
[{ "id": "358f8535-1ffe-4f6c-ba1f-40480d8c40a1", "title": "DX Promotion", "productid": "DX003", "linkurl": "https://www.hcl-software.com/dx", "imageurl": '/dx/api/dam/v1/collections/e0334e33-b91f-401d-a35a-e946e433944e/items/d1c482b8-e51b-4bed-abdc-9206065d983b/renditions/3d8f9eb3-4916-4fe7 fac5b3b0b82c?binary=true", "fileurl": "/dx/api/dam/v1/collections/e0334e33-b91f-401d-a35a-e946e433944e/items/6a212ce5-500d-4ab7-8505- dd80ac434756/renditions/9c0dcc81-1176-4d35-a720-fae70caed4ed?binary=true", "body": "	7-b3d1-
\n HCL Digital Experience \n	

7. Now check it out with the preview again. In Authoring, open the updated Promotion List content. Click Web Content, Content, Articles, Promotion List, check that is set to the Promotion List.json List Presentation and click Preview.

Libraries > Web Content > Content > Articles > Promotion List					
Promotion List Status - Published Last modified Today 2:10:47 PM GMT by Gene Hayes Created by Gene Hayes					
Edit Add To Project Preview Link More - Close					
Content Properties					
Name: Promotion List					
Display title: Promotion List					
Description: List of promotions					
 Menu Component 					
Component: Web Content / Promotions					
✓ List Presentation					
Component: Web Content / List Presentations / Promotion List.json					
ou see a JSON list.					

8. Y

 $\leftarrow \rightarrow$ C $\stackrel{\circ}{\sim}$ dx. wps/wcm/myconnect/web%20content/articles/promotion%20list?wcmitemid=721ab7ce-7975-4989-b4f6-f080f8fa03...

[{ "id": "358f8535-1ffe-4f6c-ba1f-40480d8c40a1", "title": "DX Promotion", "productid": "DX003", "linkurl": "https://www.hcl-software.com fae70caed4ed?binary=true", "body": "

\n

HCL Digital Experience

\n

And you look at the View Page Source, you'll see it is a list of contents in JSON format. 9. Line wrap 🗆

```
[{
                     "id": "358f8535-1ffe-4f6c-balf-40480d8c40a1",

"itile": "DX Promotion",

"productid": "DX009",

"linkurl": "https://www.hcl-software.com/dx",

"inkurl": "https://www.hcl-software.com/dx",

"ingeurl": "/dx/api/dam/vl/collections/e034e33-b91f-401d-a35a-e946e433944e/items/d1c482b8-e51b-4bed-abdc-9206065d983b/renditions/3d8f9el

"fileurl": "/dx/api/dam/vl/collections/e034e33-b91f-401d-a35a-e946e433944e/items/d1c482b8-e51b-4bed-abdc-9206065d983b/renditions/3d8f9el

"fileurl": "/dx/api/dam/vl/collections/e034e33-b91f-401d-a35a-e946e433944e/items/d1c482b8-e51b-4bed-abdc-9206065d983b/renditions/3d8f9el

"fileurl": "/dx/api/dam/vl/collections/e034e33-b91f-401d-a35a-e946e433944e/items/da212ce5-500d-4ab7-8505-dd80ac434756/renditions/9c0dcc8"

"body": "style=\"margin: 0cm 0cm 8pt; line-height: 107%; font-size: 11pt; font-family: Calibri, sans-serif;\">s6nbsp;
   4
5
6
```

16. Again, this is in HTML text MIME-type. To change the MIME-type, use the Content as a Service page again. Load the same content using the CaaS page URL configured with the Promotion List content, Application/JSON mime-type:

https://dx.sbx0000.play.hclsofy.com/wps/myportal/caas?current=true&urile=wcm:path :web%20content/articles/Promotion+List&mime-type=application/json

You have successfully created the new JSON Promotion List Presentation to show the list of promotions in JSON format and using the JSON application MIME-type.

Part 5: Add a Styled List Presentation

Optionally, you may learn how to use styling to build nicer UIs for your content. You will configure your theme to use Material Design for Bootstrap styling and create a new Presentation List to show your promotions using this styling.

 To make this work, you need to use a WebDAV-based theme, like the one you created in HDX-DEV-100 Theme Development (Part 1 at least). Update this first with Material Design for Bootstrap (MDB) styling, see https://mdbootstrap.com/. You may use any styling of choice. Go to the Themes, edit your existing theme and use the CDN installation option <u>https://mdbootstrap.com/docs/standard/getting-started/installation/#section-cdn</u> for MDB. Open the applications menu, click **Themes** and the **edit** icon for your **HCL DX Theme**.

Published Site 🔻		: 🛪 English 🕶 🛈
	Home	
	Web Content	
Theme Manager	Digital Assets	Create
Show Active ~	Site Templates	
	Personalization	
HCL DX Theme	Themes	1
	Administration	
Portal 8.5	Help Center	A 18

Open the theme.html and add this in the <head> section (you may copy this from your downloaded Theme – Head.html file):

Font Awesome <link href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.0.0/css/all.min.css" rel="stylesheet"/> Google Fonts				
<pre><link href="https://fonts.g rel=" stylesheet"=""/> <!-- MDB--> <link <br="" href="https://cdnjs.c</pre></th><td>oogleapis.com/css?family=Roboto:300,400,500,700&display=swap"/>cloudflare.com/ajax/libs/mdb-ui-kit/7.3.2/mdb.min.css" rel="stylesheet" /></pre>				
Published Site 🔻	⊡ 庙 : [‡] A English ▾ (Ì)			
HCL DX Theme	Last modified February 12, 2025			
▶ bootstrap	theme.html * 🗱			
contributions	2 <html lang="en"> 3 <head></head></html>			
► css	4 <meta charset="utf-8"/>			
▶ help	<pre>5 <meta content="IE=Edge" name="viewport" x-ua-compatible"=""/></pre>			
► lavout-templates	8 dyn-cs:* URIs are resolved using the values within the 'wp_dyncs_			
	<pre>9 <link href="co:head" rel="dynamic-content"/></pre>			
	<pre>10 <link href="dyn-cs:id:st_head" rel="dynamic-content"/></pre>			
modules	11 Font Awesome			



3. Add this at the end of the **<body>** in theme.html (you may copy this from your downloaded **Theme – Body.html** file) and save it:



 Then create a new List Presentation that uses the image card's code that looks at follows, see <u>https://mdbootstrap.com/docs/standard/components/cards/#subsection-image</u>. Image

Use the following example of a card element with an image for blog posts, user cards, and many more:

	Card tile Some quick example text to build on the card title and make up the bulk of the card's content.	
	<>> SHOW CODE BIT IN SANDBOX	
HTML JAVASCRIPT		COPY
<pre>1 <div class="card"> 2 <img card-body"="" src="https://mdbcdn.b-
3 <div class="/> 4 <h5 class="card-title">Ca 5 Some 6 <a class="card-i
rd title</h5>
. quick example text to build on the card title and make
tn-primary" data-mdb-ripple-init="" href="#1">Button</h5></div></pre>	mg-top" alt="Fissure in Sandst up the bulk of the card's con	

 You may copy the current Simple Promotion List and then update its design to use this code. Go to Web Content, Components, List Presentation, select Simple Promotion List and click Edit.

📃 Lik	orary Explorer ☆		
Libraries	Web Content 🕨 Components 🕨 L	ist Presentati	ons 🕨
New -	Generate 👻 Read Edit	Delete	Preview
Filter			
🗌 Туре	Title	Status	Last Saved
	Promotion List.json	Published	Today 2:07:17 PN
	Simple Promotion List	Published	Today 10:38:42 Al
Show: 10 2	25 50 items per page		

6. Save it as a new List Presentation. Click Save As.

Simple Promotion List 😭

Libraries > Web Content > Components > List Presentations > Simple Promotion List

Status - Publish	ed Created	by Gene Hayes	
Save and Close	Read	Add Result Design	Close
Save			
Save and Read	Properties		
Save as Draft			
Save As			
Display title Save As Cal	zations		

7. Set the new name and display title to **Card Promotion List**, check it is also saved under **Web Content / List Presentations** and click **OK**.

the following information	is required to save this item:
Card Promotion List	
New display title:	,
Card Promotion List	
*Select a location to Web Content / List Pre	save the item in: Select sentations as the author and owner of the new item.
OK Cance	

8. Then copy the code from

<u>https://mdbootstrap.com/docs/standard/components/cards/#subsection-image</u>, update the static text to point to the content profile and elements.

<div d<="" th=""><th>class="card"></th></div>	class="card">
--	---------------

- [Element key="Promotion Banner" rendition="auto"]
- <div class="card-body">

<h5 class="card-title">[Property field="title"]</h5>

- Product ID: [Element key="Product ID"]
- <a href="[Element key='Promotion Link' format='url']" class="btn btn-primary" data-mdb-ripple-
- init>Promotion Link

</div>

</div>

Result desi	gn 1:				
Import	Export	Insert Tag	Insert Link	Insert Image]
<div cla<="" td=""><th>ss="card"</th><th>></th><th></th><th></th><th></th></div>	ss="card"	>			
[Eleme	nt key="P	romotion Ba	nner" rendi	ion="auto"]	
<div c<="" td=""><th>lass="car</th><th>d-body"></th><th></th><th></th><th></th></div>	lass="car	d-body">			
<h5< td=""><th>class="ca</th><th>rd-title">[</th><th>Property fie</th><th>eld="title"]<</th><th>/h5></th></h5<>	class="ca	rd-title">[Property fie	eld="title"]<	/h5>
<рс	lass="car	d-text">Pro	duct ID: [E	Lement key="F	roduct ID"]
<a h<="" td=""><th>ref="[Ele</th><th>ment key='P</th><th>romotion Li</th><th>nk' format='u</th><th>rl']" class="btn btn-prim</th>	ref="[Ele	ment key='P	romotion Li	nk' format='u	rl']" class="btn btn-prim
data-mdb	-ripple-i	<u>nit</u> >Promoti	on Link		

9. Remove the design for the **Separator**.

Separator:				
Import	Export	Insert Tag	Insert Link	Insert Image

10. You may update the **Description** and then save it. Click **Save**.

Card Promotion Li	ist" was saved	under "Web Content/List Pr	esentations".
Libraries > Web Conten	t > Compone	ents > List Presentations	> Card Promotion Lis
Card Pro Status - Publish	motion ned Created	List 🛱 by Gene Hayes	
Save and Close	Read	Add Result Design	Close
Save			
Save and Read	Properties		
Care and rioud			
Save as Draft			
Save as Draft Save As			
Save as Draft Save As Display title: V Local	izations		
Save as Draft Save As Display title: @ Local Card Promotion List	izations		
Save as Draft Save As Display title: Cocal Card Promotion List Description: Localizat	izations		
Save as Draft Save As Display title: Cocal Card Promotion List Description: Localizat Card list presentation	izations tions of promotions		

11. And test it out again on the **Contacts** page. Select your new **Card Promotion List**, click **OK** and **Save**.

List Presentation Promotion List.json
Select the component that will be referenced in this conten
Libraries Web Content > List Presentations
Filter Type Title
Card Promotion List Promotion List.json
Simple Promotion List
Show: 10 25 50 items per page
Select OK None Cancel

12. And they now appear as cards:



13. Have a look at how they look in publishing mode. Disable the edit mode.



You have successfully added a new styled list presentation for your promotions using external styling.

Conclusion

Using this lab tutorial, you have learned how to use the Web Content Authoring interface to further develop your web content. You have learned how to reuse content in different formats, like JSON. You also learned how to use reusable designs with List Presentations and make this a reusable component, allowing business users to easily configure it. And you learned how to style it, to make it look better.

Resources

Refer to the following resources to learn more:

- HCL Digital Experience Home <u>https://hclsw.co/dx</u>
- HCL Digital Experience Marketplace (SoFy) https://hclsofy.com/dx
- HCL Software https://hclsw.co/software
- HCL Product Support <u>https://hclsw.co/product-support</u>
- HCL DX Product Documentation https://hclsw.co/dx-product-documentation
- HCL DX Support Q&A Forum <u>https://hclsw.co/dx-support-forum</u>
- HCL DX Product Ideas <u>https://hclsw.co/dx-ideas</u>
- DXers User Group https://dxers.ug

Legal statements

This edition applies to version 9.5, release 221 of HCL Digital Experience and to all subsequent releases and modifications until otherwise indicated in new editions.

When you send information to HCL Technologies Ltd., you grant HCL Technologies Ltd. a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

©2025 Copyright HCL Technologies Ltd and others. All rights reserved.

Note to U.S. Government Users — Documentation related to restricted rights — Use, duplication or disclosure is subject to restrictions set forth in GSA ADP Schedule Contract with HCL Technologies Ltd.

Disclaimers

This report is subject to the HCL Terms of Use (<u>https://www.hcl.com/terms-of-use</u>) and the following disclaimers:

The information contained in this report is provided for informational purposes only. While efforts were made to verify the completeness and accuracy of the information contained in this publication, it is provided AS IS without warranty of any kind, express or implied, including but not limited to the implied warranties of merchantability, non-infringement, and fitness for a particular purpose. In addition, this information is based on HCL's current product plans and strategy, which are subject to change by HCL without notice. HCL shall not be responsible for any direct, indirect, incidental, consequential, special or other damages arising out of the use of, or otherwise related to, this report or any other materials. Nothing contained in this publication is intended to, nor shall have the effect of, creating any warranties or representations from HCL or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of HCL software.

References in this report to HCL products, programs, or services do not imply that they will be available in all countries in which HCL operates. Product release dates and/or capabilities referenced in this presentation may change at any time at HCL's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way. The underlying database used to support these reports is refreshed on a weekly basis. Discrepancies found between reports generated using this web tool and other HCL documentation sources may or may not be attributed to different publish and refresh cycles for this tool and other sources. Nothing contained in this report is intended to, nor shall have the effect of, stating.

or implying that any activities undertaken by you will result in any specific sales, revenue growth, savings or other results. You assume sole responsibility for any results you obtain or decisions you make as a result of this report. Notwithstanding the HCL Terms of Use <u>(https://www.hcl.com/terms-of-use)</u>, users of this site are permitted to copy and save the reports generated from this tool for such users own internal business purpose. No other use shall be permitted.