# Release Notes for XPages Extension Library 9.0.1 (2014MMDD)

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# Introduction

This release is the tenth IBM Notes Domino 9.0.1 version of the XPages Extension Library (ExtLib) to OpenNTF. It contains new enhancements and a number of bug fixes. The intention of this release is to continue the improvement of the 9.0.1 OpenNTF ExtLib release which we hope you enjoy.

# The 10th 9.0.1 Release

The following new changes have been added to this release:

- Responsive Web Design Support in Xpages
- Enhanced Application Layout Wizard
- Enhancements to the theme combo boxes in the Xsp Properties editor
- SPR Fixes
- Change Log Update

Refer to the specific sections of this document for more details (if needed) on these additions to the release.

# **Responsive Web Design Support in XPages**

# Introduction

Support for Bootstrap, a Responsive Web Design (RWD) framework, is a new feature that has been added to this release of the XPages Extension Library. It comes in the form of an XPages Responsive Bootstrap plugin that you can leverage in XPages applications.

The plugin provides two themes that you can use in your applications as well as Bootstrap v3.2.0 & jQuery v2.1.1. With Bootstrap you can create dynamic, responsive web applications that provide an optimised user experience for a range of devices, from mobile phones to large desktop monitors.

This feature started out as the Bootstrap4XPages (B4X) project on OpenNTF. The code & resources from that project provided the starting point of this new XPages Responsive Bootstrap (XRB) plugin. The older versions of Bootstrap in the B4X project, v2.3.2 & v3.0.0 etc have been removed, leaving just the latest Bootstrap, v.3.2.0, in the XRB plugin. Similarly, the older version of jQuery, v1.11, has been replaced by jQuery v2.1.1 in the XRB plugin.

The Select2 control, created by Mark Leusink, has not been included in the XRB plugin. However, we have provided instructions below on how to continue using the Select2 control with the new XRB plugin.

### **Important Note**

Internet Explorer 8 and earlier versions of IE do not support certain CSS media queries that are heavily used by Bootstrap. Also, jQuery dropped support for IE8 in 2.x. Therefore, in this first release of the XRB plugin, IE8 and earlier IE versions are not supported.

There is an open source project, Respond.js (<u>https://github.com/scottjehl/Respond</u>), that can be used to provide the media query support needed in those older versions of IE. Additionally, an earlier version of jQuery would also be required, v1.x, for IE8 support.

If you need IE8 support you can setup an older jQuery version and Respond.js on your server by following the instructions provided later in this README file.

### Setup

The XPages Responsive plugin is automatically installed as part of the Extension Library installation to the server and Designer. Once this is installed, remember to restart the server and Designer. The next step is to select the correct theme for your application.

To do this, go to the xsp.properties of your application, open the General tab and change the Application theme of your application to use either the "Bootstrap3.2.0" or "Bootstrap3.2.0\_flat" themes. These are the two themes that are provided by the XRB plugin.

XPage Properties	
Theme Defaults	
Application theme:	Bootstrap3.2.0 👻
Override on Weh:	Platform default
	Bootstrap3.2.0
Override on Notes:	Bootstrap3.2.0_flat
	OneUI
🔲 Use mobile theme for XPages wit	OneUI V2
	OneUI V2.1
Mobile theme:	OneUI V3.0.2
Override on iOS:	webstandard

The "Bootstrap3.2.0\_flat" theme provides the resources and styling that comes with the basic form of Bootstrap v3.2.0 to let you use Bootstrap in your XPages application. It also provides the jQuery v2.1.1 resources that you can leverage in your application. Along with this, the theme provides some specific XPages resources to clean up the XPages controls when using Bootstrap. Also included are the full suite of Glyphicon Halflings that come with Bootstrap (discussed later in this document), and the resources from the dbootstrap project, which provide Bootstrap styling for Dojo controls.

The "Bootstrap3.2.0" theme provides all of the same resources as the above BootstrapFlat theme, but also includes an added layer in the form of "bootstrap-theme.css". This adds 3D effects to buttons and some other additional styling, on top of all of the features of the flat theme.

Finally, save your application, clean and rebuild it. Clear the cache in your browser and open your new responsive Bootstrap XPages application.

# **Responsive Application Layout Configuration**

The XRB plugin adds a new renderer for the Application Layout control and a new Application Configuration complex type for the control. The new renderer type (com.ibm.xsp.theme.bootstrap.layout.ResponsiveAppLayout) is automatically applied to Application Layout controls in your application when you enable either of the Bootstrap themes in the application's xsp.properties. The renderer gives the App Layout a Bootstrap look and feel, as well as making the control responsive.

XPAGES	Banner Link1	Banner Link2	Banner Container 👻		Banner Link1 E	anner Link2	Banner Container 👻
Title Bar					inactive		Q
PlaceBar					Place Link1	Place Link2	Place Container -
Nav Link 1	Content Conten	t Content					
	Cell 1			Cell 2			
Nav Link 2	Cell 3			Cell 4			
Nav Link 3							
Nav Container							
Container Link 1							
Container Link 2							
Container Link 3							
			Copyright IBM	2014			

When the application is rendered on a smaller screen, such as on a mobile device, it will automatically re-organise the application contents for an optimal user experience on the smaller screen. Items on the page are stacked vertically, and in some cases items will be collapsed, as is the case in the example below where you can see that the banner links have been collapsed into an expandable menu. The menu is collapsed in the left screenshot, and expanded in the right screenshot.

XPAG	ES			X	PAG	ES		
inactive			Q	Bar	nner Link1			
Title Bar				Bar	nner Link2			
PlaceBa	ar			Bar	ner Contai	ner 👻		
Place Link1 Place Link2 Place Container -				Bar	nner Link1			
Nav Link 1				Banner Link2				
Nav Link 2			Banner Container 👻					
Nav Link 3				inac	tive			Q
Nav Contain	er			Tit	le Bar			
Content Conter	nt Content			Ρ	laceBa	ar		
Cell 1		Cell 2		Pla	ace Link1	Place Link2	Place Container	-
Cell 3		Cell 4		N	av Link 1			
	Copyright I	BM 2014		N	av Link 2			

The new Bootstrap Responsive Application Configuration further enhances the responsive capabilities of the App Layout control. You can add it to a new App Layout control using the enhanced Application Layout wizard (discussed later) or via the Properties panel for the control. The blue stars in the image indicate the new properties added by this configuration.

Properties ×	🖉 Events 🗴 💽 Problems (1) items) 🗴 🔗 S	earch ×	
		o di oli	
Application Layout	Property	Value	
Banner			
Application Links	binding		
Application Links	configuration		
Utility Links	id	арі	xe:applicationConfiguration
Title Bar	loaded		xe:bootstrapResponsiveConfiguration
Search	rendered		xe:oneuiApplication
Place Bar	rendererType		···········
Footer	⊿ events		
Legal	onItemClick		
All Properties	⊿ styling		
nirroperces	disableTheme		
	themeId		
Properties ×	👔 Events 🗴 📲 🛣 Problems (Ulitems) 🗴 🛛 🔗 S	earch ×	
Application Layout	Property	Value	
Banner	▲ basics		
Application Links	binding		
Utility Links	configuration	xe:boo	otstrapResponsiveConfiguration
Title Bar	banner		
Search	banner Application Links		
Search	bannerUtilityLinks		
Place Bar	T collapseLeftColumn		
Footer	collapseLettivienuLabel		
Legal	defaultNavigationBath		
All Properties	fixedNavbar		
	fonter		
	footerLinks		
	+ invertedNavbar		
	leftColumnLabel		
	legal		
	legalLogo		
	legalLogoAlt		
	legalLogoClass		
	legalLogoHeight		
	legalLogoStyle		
	legalLogoWidth		
	legalText		
	loaded		
	mastFooter		
	mastHeader		
	navigationPath		
	T pageWidth		
	placeBar		

You can also update existing Application Layout controls to use the responsive

configuration, by changing your application layout configuration from "xe:applicationConfiguration" or "xe:oneuiApplication" to use

"xe:bootstrapResponsiveConfiguration" instead (see the code example). This lets you use the additional properties, which have been highlighted above, in your existing application layout control.



The bootstrap responsive configuration adds some extra configurable properties compared to the standard Application Layout Configurations:

- collapseLeftColumn Boolean indicating if the left column facet should be collapsed on smaller screens.
- collapseLeftMenuLabel The label on the menu button shown when the left column is collapsed. This value is "Menu" by default
- collapseLeftTarget Optionally you can enter a selector here (jQuery syntax, see http://api.jquery.com/category/selectors/) to which the menu should be attached. Default value: .applayout-column-left (after the element with the applayout-columnleft class)

Using these values you can specify that your left column is collapsed on devices with smaller screens. For example, the following values will collapse the navigator in the left facet into a drop down menu in the banner, as you can see in the image below:

collap	secentiarye		nu				
XPAG	ES M	yMiniMenu 👻		XPAG	ES	MyMiniMenu -	
inactive			Q	inactive		Nav Link 1	
Title Bar				Title Bar		Nav Link 2	
PlaceBar			PlaceBa	ar	Nav Link 3		
Place Link1	Place Link2	Place Container -		Place Link1	Place Lin	Nav Container	
Content Conter	nt Content			Content Conter	nt Content	Container Link 1	
Cell 1		Cell 2		Cell 1		Container Link 2	
Cell 3		Cell 4		Cell 3		Container Link 3	

collapseLeftColumn="true" collapseLeftMenuLabel="MyMenu" collapseLeftTarget=".navbar-brand"

- pageWidth Determines the width of the page. full = full width, fluid = use Bootstrap 'fluid' container (almost full width), fixed = fixed width.
- invertedNavbar Boolean indicating if the banner style should be inverted, using the style navbar-inverted. This value is False by default.
- fixedNavbar You can fix the banner using this property, so that it remains fixed in place even when scrolling the page. This applies for the banner on any screen size. There are three options:
  - unfixed-top The default value which places the banner at the top of the page unfixed.
  - fixed-top Fixes the banner to the top of the page (see left screenshot below).
  - fixed-bottom Fixes the banner to the bottom of the page (see right screenshot below).

	SES M	yMenu 🗸 📃		inactive			Q	
PlaceBa	ar			PlaceBar				
Place Link1	Place Link2	Place Container -		Place Link1 Place Link2 Place Container -				
Content Conter	nt Content		=	Content Conter	at Content			
Cell 1	C	ell 2						
Cell 3 Cell 4			Cell 1	C	ell 2			
				Cell 3	C	ell 4		
	Copyright IB	M 2014	Ŧ	XPAG	ES M	yMenu 🔺		Ŧ

# **Enhanced Application Layout Wizard**

To complement the new responsive Bootstrap theme, the Application Layout Wizard has been refined in this release. It is now a two page wizard.

The first page displays the list of available configurations. This list can be filtered to display responsive or non-responsive configurations using the radio group at the top of the page. A sample URL and image is also displayed for any configurations that provide them.

Application Layout Wizard	
Application Layout	
<ol> <li>Choose the configuration fo</li> </ol>	r this control.
💿 All 🔘 Responsive 🔘 I	Non-Responsive
	Basic Application Configuration A basic configuration for the application layout control
	<b>OneUI Application Configuration</b> Layout with up to three areas at the top for titles and navigation links, a content area with up to three columns, and up to two footer areas.
	Responsive Bootstrap Configuration Responsive application layout configuration that supports additional Bootstrap specific properties
< Bac	k Next > Finish Cancel

The second wizard page contains further options for the chosen configuration. The options for a basic application configuration can be seen on the left, whilst the options for the responsive bootstrap configuration can be seen on the right.

🤔 Application Layout Wi	zərd		Application Layout Wizard					
Basic Application C	Configuration		Responsive Bootstrap Configuration					
<ol> <li>Choose the options for</li> </ol>	or this configuration.		<ol> <li>Choose the options for this configure</li> </ol>	iration.				
	_							
	Layout with up to three areas at th	he top	Property	Value				
	for titles and navigation links, a co	ontent	A basics					
	to two footer areas.	iu up	binding					
			▲ configuration	xe:bootstrapResponsiveConfiguration 📼				
			banner					
			banner Application Links					
			bannerUtilityLinks					
			collapseLeftColumn					
			collapseLeftMenuLabel					
📝 Banner Area at the	top of the page for branding and global links		collapseLeftTarget					
Title har - Area for a	n is a second correl controls		defaultNavigationPath					
M The Dar Area for ap	spineation due and search controls		fixedNavbar					
V Place bar Area for s	econdary title and action buttons		footer					
📝 Footer Area under t	he content area for links and text		footerLinks					
🔽 Legal Area at the bi	ottom of the page for the legal information		invertedNavbar					
Ann Continue the second			leftColumnLabel					
Application theme			legal					
Volu can set a theme for	: control works best in conjunction with an application th or the application here now, or do it later in Application	neme.	legalLogo					
Properties.	of the upplication here now, of the relater in Application		legalLogoAlt					
			legalLogoClass					
Application theme:	Platform default		legalLogoHeight					
			legalLogoStyle					
			legalLogoWidth					
			1					
	< Back Next > Finish (	Cancel	< Back	Next > Finish Car				

## Using Glyphicons as part of the Responsive feature

Glyphicons Halflings is a set of 200 glyphs, contained in a single font file, that come as part of Bootstrap. You can read more about glyphicons on their website: <u>http://glyphicons.com</u>

Instead of graphics/image files, the XRB feature uses glyphs from the glyphicon font file for icons wherever possible in the XPages & ExtLib controls. The benefit of doing this is that there are fewer files to download when loading your application. The font icons are scalable so that they don't look like a collection of pixels when enlarged. And the colour or size of the icon can easily be changed using simple CSS styling.

One good example of the glyphicons being used in the XRB feature is the following which uses them with the Data view control:

Collapse All	Expand All			<	1	2	3	4	5	6	7	8		>	
Title	Title								Author 1						
🖹 🔘 Etiam	tincidunt						9 Oct	2013	Al	fredo	Gom	ez		*	
🖹 🕒 Suspe	endisse eget	nisi et dolor fringil	a imperd	iet			9 Oct	2013	Ar	nold	Tyler			*	
🖹 🛛 🛛 Na	m varius feug	jiat aliquam					9 Oct	2013	Ar	nold	Tyler			*	
Mauris vel diam vel velit consequat imperdiet Mauris vel diam vel velit consequat imperdiet. In tincidunt faucibus bibendum. Curabitur tellus enim, mollis ut dapibus laoreet, posuere in metus. Nam vel est mauris, vel cursus sem. Nullam imperdiet pulvinar nulla in commodo. Pellentesque ac ligula in ipsum tempor sollicitudin. Donec eget justo Reply I Tags: See them					nt	9 Oct 2013 Beatric				2 MUI	an				
🖹 🗿 Vivam	us at elit in a	nte vestibulum tei	mpor			9 Oct 2013 Arnold Tyler							~		
🖹 🔘 Duis u	it elit ante						8 Oct 2013 Angelina Maddox					ddox		~	
🖹 O In quis	; odio massa						8 Oct	2013	Be	eatrice	e Mor	an		~	
LO Morbi	sapien leo						7 Oct	2013	A	ejand	ra Cu	Inning	gham	*	
🖹 🔘 Fusce	O Fusce quis neque eget purus vulputate consectetur						7 Oct 2013 Alis				coray			*	
Quisque libero est							7 Oct	2013	Be	eatriz	Deleo	on		*	
Show 10	25 50	All items per	page												

All of the icons you see in the image above are using glyphicons; the read/unread marks, the sort by author icon, the +/- icons for expanding/collapsing a thread and the chevrons for showing/hiding details. Instead of downloading several image resources, only one font file is downloaded and used for all of those icons.

If you wish to use the glyphicons in an XPage yourself, they can be added quite easily by specifying some CSS style classes. For some examples, see the code below, which produces the following result:



```
<xp:panel id="panel1" style="width:320px;margin: 10px;">
  <xp:div id="div1" styleClass="glyphicon glyphicon-shopping-cart"></xp:div>
  <xp:br />
  <xp:div id="div2">
   <xp:div styleClass="glyphicon glyphicon-hand-right"</pre>
           style="color:red;font-size:30px;display:inline;"></xp:div>
     <xp:label value="My Label" id="label1"></xp:label>
   </xp:div>
   <xp:br />
   <xp:div id="div3" styleClass="input-group">
   <xp:inputText id="inputText1" styleClass="form-control"></xp:inputText>
   <xp:div styleClass="glyphicon glyphicon-plus-sign input-group-addon"</pre>
            style="color:green;"></xp:div>
  </xp:div>
  <xp:br />
  <xp:div id="div4" style="padding-bottom:10px;">
    <xp:link styleClass="glyphicon glyphicon-home"</pre>
                style="font-size:28px" value="#"></xp:link>
      <xp:link styleClass="glyphicon glyphicon-cloud"</li>
                  style="font-size:28px" value="#"></xp:link>
      <xp:link styleClass="glyphicon glyphicon-phone"</li>
                  style="font-size:28px" value="#"></xp:link>
      <xp:link styleClass="glyphicon glyphicon-thumbs-up"</li>
                  style="font-size:28px" value="#"></xp:link>
      <xp:link styleClass="glyphicon glyphicon-globe"</li>
                  style="font-size:28px" value="#"></xp:link>
   </xp:div>
  <xp:div>
   <xp:button id="button1" styleClass="glyphicon glyphicon-star btn-primary"</pre>
              style="font-size:16pt;color:white"></xp:button>
   <xp:button id="button2" styleClass="glyphicon glyphicon-ok btn-success"</pre>
              style="font-size:16pt;color:white"></xp:button>
   <xp:button id="button3" styleClass="glyphicon glyphicon-info-sign btn-info"</pre>
              style="font-size:16pt;color:white"></xp:button>
   <xp:button id="button4" styleClass="glyphicon glyphicon-exclamation-sign btn-warning"</pre>
              style="font-size:16pt;color:white"></xp:button>
   <xp:button id="button5" styleClass="glyphicon glyphicon-remove btn-danger"</pre>
               style="font-size:16pt;color:white"></xp:button>
  </xp:div>
</xp:panel>
```

As you can see from the code, adding the glyphicons to your application is quite straight forward, done by adding the "glyphicon" class and a class for a specific icon. Changing the size and colour is also easily done, by specifying style attributes 'color' and 'font-size'. For a full list of the available icons, see the bootstrap documentation at: http://getbootstrap.com/components/#glyphicons

### Using jQuery as part of the Responsive feature

jQuery 2.1.1 is packaged as part of the XPages Repsonsive Bootstrap plugin. "jquery-2.1.1.js" is provided as a resource in the "Bootstrap3.2.0" & "Bootstrap3.2.0\_flat" themes. However, if you wish to use jQuery in your XPages application separate from Bootstrap, that can be done in the following ways. First, you can the resource to an XPage:

```
<xp:this.resources>
<xp:script
    src="/.ibmxspres/.extlib/responsive/jquery/jquery-2.1.1/jquery-2.1.1.min.js"
    clientSide="true">
    </xp:script>
    </xp:this.resources>
```

OR add the jQuery resource to a custom theme in your XPage application's resources, and set your application to use that theme. In this way jQuery will be available on every XPage in the application:

#### To use jQuery in an XPage, you can add it in a script block:

```
This is JQUERY!
🤗 🚏 🔇 🕻 🔀 Console 🛛 HTML 🔻 CSS Script DOM Net Cookies
📙 Edit body.xsp.dbootstrap < html
 Sody
     🗏 <form id="view:_idl" enctype="multipart/form-data" action="/responsive/ExtLibResponsive.nsf/ab_test.xsp" method="post">
        div id="view:_idl:content
          script type="text/javascript">
               2 XSP.addOnLoad( function() {
                                          $("*[id$='mvText']").html("This is JOUERY!");
                                     });
            </script>
            <div id="view:_idl:myText">This is JQUERY!</div>
          </div>
```

OR add it to the onClientLoad event of an XPage or Custom Control:



### OR add it as a client side event, such as on a button's onclick event

## jQuery Selector Issue for XPages ids

There is a problem with using jQuery in XPages. You cannot pass IDs with colons as a jQuery selector, as the colon is a special character. So you cannot use the standard jQuery method to select elements on an XPage using their ID. There are some ways to avoid this issue.

One way you can avoid the colons in IDs when passing them to jQuery is by prefixing each colon with two backslashes:

HTML: <xp:inputText id="view:\_id1:input1" class="inputClass1"></xp:inputText>

jQuery Selector: \$('#view\\:\_id1\\input1)

You can also use a CSS class name as a selector instead:

```
HTML: <xp:inputText id="view:_id1:input1" class="inputClass1"></xp:inputText>
```

jQuery Selector: \$('.inputClass1')

You can also use wildcard characters to specify what the ID ends with. The following selector specifies any element (indicated by the '\*' in the selector) whose ID ends with (indicated by 'id\$=' in the selector) a particular id value:

```
HTML: <xp:inputText id="view:_id1:input1" class="inputClass1"></xp:inputText>
```

jQuery Selector: \$("\*[id\$='input1']")

Lastly, Mark Roden wrote an XSnippet on OpenNTF, that provided a custom jQuery selector function for XPages. This function automatically prefixes colons with the double backslash escape characters. We have incorporated the snippet into the XPages Responsive Bootstrap plugin. It can be found in the following resource, which is provided by the two Bootstrap3.2.0 themes, or can be added as a resource to your application:

```
<resource>
        <content-type>application/x-javascript</content-type>
        <href>/.ibmxspres/.extlib/responsive/xpages/js/xsp-mixin.js</href>
</resource>
```

For further reading on this issue, and the work-arounds, see these blog posts:

http://xomino.com/2012/01/26/using-jquery-selectors-in-xpages/ http://xomino.com/2012/02/jquery-selector-function-for-xpages-xidinputtext1/ http://openntf.org/XSnippets.nsf/snippet.xsp?id=x-jquery-selector-for-xpages

## Information about using the Select2 control

As previously stated, the Select2 control from the Bootstrap4XPages project has been left out of the XPages Responsive Bootstrap plugin. However, you can still use the Select2 control in combination with the XRB features.

To do this, make sure you have installed both the latest ExtLib and the Booststrap4XPages project to your server and Domino Designer. Then ensure that the ExtLib and B4X libraries are selected in your application's xsp.properties as in this example:

XPage Libraries	
Select the libraries of extended XPage controls to use in this application.	
Library ID	•
com.ibm.xsp.extlib.relational.library	_
📝 com.ibm.xsp.extlib.library	=
📝 org.openntf.xsp.bootstrap.library	
com.ibm.xsp.opensocial.library	-

Be sure to switch to one of the themes from the XRB plugin, as discussed previously. With the B4X library enabled, you can use the Select2 control in the same way as you have used it before, with the themes provided by XRB. See the Bootstrap4Xpages documentation for more details on how to use Select2.

### **IE8 Unsupported**

As stated earlier, Internet Explorer 8 and earlier versions of IE do not support CSS3 Media Queries, and jQuery 2.x does not support IE8. As a result, IE8 and earlier are not supported in this release of the XPages Responsive Bootstrap plugin.

If you wish to use XRB and support IE8, you will need to add some extra resources to your server. The first resource is jQuery 1.x, as the older version of jQuery supports IE8.

To do this, use the following steps:

- 1. Download jQuery 1.x from the jQuery site: http://jquery.com/download/
- 2. Put the jquery.1.x.min.js file in a sub-directory of the html folder on the server, e.g. "<domino-server>/Data/domino/html/jquery/jquery.1.x.min.js"
- 3. Add the resource to your xpage:

You can also add the resource to a theme that extends the Bootstrap3.2.0 theme, and set your application to use the extended theme:

```
<theme extends="Bootstrap3.2.0"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:noNamespaceSchemaLocation="platform:/plugin/com.ibm.designer.domino.stylekit

s/schema/stylekit.xsd" >

<resource rendered="#{javascript:context.getUserAgent().isIE(7,8)}">

<content-type>application/x-javascript</content-type>

<href>/.ibmxspres/domino/jquery/jquery.1.x.min.js</href>

</resource>

</theme>
```

A conditional check has been included in the theme example above, so that the extra jquery resource is only loaded for IE7 & IE8.

The second resource that needs to be added to your server for IE8 support in XRB is Respond.js. Respond.js is an open source project on GitHub that aims to solve the problem of CSS3 media query support in older IE versions.

This project is referenced on the "getbootstrap" website as a means to resolve the problem. You can add the Respond.js resource to your server in the same way as jquery above. The steps are the following:

- 1. Download the respond.min.js resource from their GitHub repository: <u>https://github.com/scottjehl/Respond/tree/master/dest</u>
- 2. Put the respond.min.js file in a sub-directory of the html folder on the server, e.g. "<domino-server>/Data/domino/html/respond/respond.min.js"
- 3. Add the resource to your xpage:

```
<xp:this.resources>
   <xp:script src="/.ibmxspres/domino/respond/respond.min.js" clientSide="true">
   </xp:script>
   </xp:this.resources>
```

You can also add the resource to a theme that extends the Bootstrap3.2.0 theme, and set your app to use the extended theme:

As IE8 is unsupported by the XRB feature though, there may be further issues that arise, even with the above resources properly in place.

# Package Description of Download

When you expand the zip encapsulating this release, **ExtensionLibraryOpenNTF-901v00\_04.2014MMDD-HHMM.zip**, you will see the following artifacts as shown in Table 01.

Table 01

Artifact	Description
doclib8xl.ntf	A sample version of the Domino Doc Library template based on 8.5.3 version XPages Extension Library and the 8.5.3 core.
Domino FreeBusy Service.pdf	Document describing the Domino Freebusy service included in this release of the extension library.
Domino Mail Service.pdf	Document describing the Domino mail service included in this release of the extension library.
FirebugLiteLicense	License information for the Firebug Lite client side debugger.
ICAL4JLicense	License information for the iCalendar specification in Java application for Notes Domino.
LICENSE	Details of the Apache License governing use, reproduction and distribution of the XPages Extension Library on OpenNTF.org.
NOTICE	File containing copyright notices from the various technologies that comprise this release of the Extension Library.
readme.pdf	The document you are reading now.
SLF4JLicense	License information for the Simple Logging Facade for Java (SLF4J).
srcOpenNTF.zip	Archive file containing all the sources corresponding to the XPages Extension Library runtime (updateSiteOpenNTF.zip)
srcOpenNTF-designer.zip	Archive file containing all the sources corresponding to the Domino Designer tooling for XPages Extension Library runtime.
srcOpenNTFSamples.zip	Archive file containing source samples for services in Domino Access Services.
SrcRestOpenNTF.zip	Archive file containing all the sources corresponding to the REST mail and freebusy service
updateSiteOpenNTF.zip	Eclipse update site that includes all of the XPages Extension Library runtime features and plugins, including experimental plug- ins.
updateSiteOpenNTF-designer.zip	Eclipse updates site that includes all of the XPages Extension Library features and plugins, including experimental plug-ins and Domino Designer tooling plug-ins.
updateSiteOpenNTFExtended.zip	Eclipse updates site that only includes Extended Components (ExtLibX) of the XPages Extension Library runtime features and plugins and Domino Designer tooling plug-ins.
updateSiteOpenNTFSamples.zip	Eclipse updates site for the Domino Access Services sample.
XPages Extension Library - Slides.pdf	Collection of slides providing high level overview of XPages Extension Library concepts and features.
XPages Goes Relational.odp	Collection of slides covering various aspects of the experimental RDBMS data sources included in the Extension Library. Provides high level coverage of roadmap, features and limitations.
XPages-Doc.zip	HTML documentation describing the controls and complex types that comprise the 9.0.1 release for XPages and the XPages Extension Library. It also describes all properties and object hierarchies.
XPagesExt.nsf	The standard demonstration application covering most of the XPages Extension Library controls.

# Installation Instructions

For IBM Notes Domino 9.0.1, installing the OpenNTF version of the 9.0.1 ExtLib can be done in very much in the same way as for previous releases which is described in a dedicated article entitled "XPages Extension Library Deployment in Domino 8.5.3 and IBM XWork Server", available on the web at this URL:

## http://www-10.lotus.com/ldd/ddwiki.nsf/dx/XPages Extension Library Deployment

The underlining XPages architecture has not changed between the two code streams. One difference for which administrators and developers should be mindful is that, from IBM Notes Domino 9.0 onwards, the XPages Extension Library is now part of the core install and this may effect how the XPages runtime is upgraded with Extension Library from OpenNTF. Now follows a short description of two upgrade methods. One on upgrading the Domino server and Domino Designer environments using just the Extended Components features (extlibx) and another on the complete Extension Library which also includes the Extended Components. For either method the recommended way to install and deploy the XPages Extension Library is to use an application generated from the Eclipse Update Site template (updatesite.ntf).

# Installing only the Extended Components Library from OpenNTF with the XPages Extension Library from IBM

It is envisioned that the most likely requirement for releases of the OpenNTF ExtLib is to install just the Extended Components along side the IBM XPages ExtLib in Domino 9.0.1. This will add the RDBMS feature to the XPages runtime. The version of the Extended Components Library (ExtLibX) in this release is related closely to the code of the IBM XPages Extension Library in Domino 9.0.1. Any dependencies between the two should resolve themselves without an issue. However this may change in subsequent releases to OpenNTF of the Extension Library as dependancies may become out of sync as new features are added. In that case the following deployment use case may not be preferable nor recommended.

In this release a new Eclipse Update Site zip file (updateSiteOpenNTFExtended.zip) has been provided to simplify the deployment of the Extended Components. The contents of this zip are imported into the Domino Server's Update Site NSF by selecting the **Import Local Update Site** button.

Selecting the Browse button here will launch a dialog that allows for the selection of a **site.xml** file from an Eclipse plugin project as shown in Figure 01.

Figure 01



Selecting this file and pressing the **OK** button begins the import process. And the view of the update site database will be updated with a document representing the import of the plugin as in Figure 02.

### Figure 02

<b>\$</b>	🗇 Import Local Update Site 🕸 Import Features 🛇 Import Database 🕄 Update URL References							
Up	Update site contains 2 features, 9 plugins, 1 fragments. Last updated: Today at 12:11							
×	🔀 Disable Features 🥪 Enable Features							
	Category	Feature	Version					
	🗆 OpenNTF Build	st						
	🖉 🖗	Extended Components Library for XPages Extension Feature	9.0.1.v00_01_2013					
	🖉 🖗	Extended DAS Services Feature	9.0.1.v00_01_2013					

The Domino server is now ready to include this plugin as part of the runtime (the Update Site NSF must be included in the notes.ini variable OSGI\_HTTP\_DYNAMIC\_BUNDLES – e.g. OSGI\_HTTP\_DYNAMIC\_BUNDLES=UpdateSite1.nsf – if newly added, the Domino server will have to be restarted to pick up this notes.ini setting).

The HTTP task must be restarted on the Domino server for the runtime to pick up this new plugin - "restart task http" - and if successful the following message will appear in the server console stating that "...**NSF Based plugins are being installed in the OSGi runtime...**"

To further verify that the ExtLibX plugins are now running as part of the runtime, type into the console "**tell http osgi ss com.ibm.xsp.extlibx**" and "**tell http osgi ss com.ibm.domino.services**". A list should then appear on the console detailing the deployed ExtLibX plugins on the server as in Listing 01.

#### Listing 01

> tell http osgi ss	com.ibm.xsp.extlibx			
31/10/2013 12:27:57	Fram	ework is	launched.	
31/10/2013 12:27:57	id	State	Bundle	
31/10/2013 12:27:57	12	ACTIVE	com.ibm.xsp.extlibx.relational 9.0.1.v00 01 20131029-1400	
31/10/2013 12:27:57	13	RESOLVED	com.ibm.xsp.extlibx.relational.derby 9.0.1.v00 01 20131029	
31/10/2013 12:27:57	14	RESOLVED	com.ibm.xsp.extlibx.oauth 9.0.1.v00 01 20131029-1400	
31/10/2013 12:27:57	16	< <lazy>&gt;</lazy>	com.ibm.xsp.extlibx.core 9.0.1.v00 01 20131029-1400	
31/10/2013 12:27:57	18	ACTIVE	com.ibm.xsp.extlibx 9.0.1.v00 01 20131029-1400	
31/10/2013 12:27:57	19	RESOLVED	com.ibm.xsp.extlibx.controls 9.0.1.v00 01 20131029-1400	
> tell http osgi ss	com.ib	m.domino.	services	
31/10/2013 12:29:24	Fram	ework is	launched.	
31/10/2013 12:29:24	id	State	Bundle	
31/10/2013 12:29:24	15	< <lazy>&gt;</lazy>	com.ibm.domino.services.mail 9.0.1.v00 01 20131029-1400	
31/10/2013 12:29:24	20	< <lazy>&gt;</lazy>	com.ibm.domino.services.freebusy 9.0.1.v00 01 20131029-140	
31/10/2013 12:29:24	135	< <lazy>&gt;</lazy>	com.ibm.domino.services.calendar 9.0.1.v00 00 20131004-120	
31/10/2013 12:29:24	136	ACTIVE	com.ibm.domino.services_9.0.1.v00_00_20131004-1200	
>				

For Domino Designer, the developer may install the same Extended Component update site, using the same target. This can be achieved by selecting the **File > Application > Install** menu option in Domino Designer. Then from the **Install/Update** dialog, select "Search for new features to install". On the following dialog select the button to add a remote location - add the URL to the above update site NSF as shown in Figure 03.

Figure 03

@Edit	Remote Site	×				
Name:	domino update site					
URL:	http://myServer.mul.ie.ibm.com/updatesite1.nsf					
	ОК	Cancel				

This will require Domino Designer to be restarted. Once this is completed, Domino Designer will have installed the same ExtLibX that is deployed on the server.

# Installing the 9.0.1 XPages Extension Library from OpenNTF with the 9.0.1 XPages Extension Library from IBM

The 9.0.1 ExtLib from OpenNTF can be installed and deployed along side the version of the ExtLib installed with the IBM Notes Domino 9.0.1 builds. The XPages runtime will use the libraries with the latest modified date stamp, and this release of the 9.0.1 ExtLib to OpenNTF has a newer date stamp than that of the Gold release from IBM it will take precedence.

Again the recommended way to install the full Extension Library from OpenNTF is to use the Domino server's Update Site NSF. Select the Import Local Update Site button in this application and select **site.xml** file from an Eclipse plugin project extracted from the "updateSiteOpenNTF.zip" or "updateSiteOpenNTF-designer.zip" archive files. Pressing the **OK** button begins the import process. And the view of the update site database will be updated with a document representing the import of the plugins. The following image shows how the Update Site NSF might look like after the update site from "updateSiteOpenNTF-designer.zip" is imported as shown in Figure 04.

### Figure 04

🔗 Import Local Update Site 🚱 Import Features 😒 Import Database 🕄 Update URL References							
Update site contains 10 features, 31 plugins, 1 fragments. Last updated: Today at 13:15							
🔀 Disable Features 🥪 Enable Features							
Category		Feature	Version				
⊟ OpenN	□ OpenNTF Builds						
	🗸 🖗	XPages Extension Library Designer Source Feature	9.0.1.v00_01_20131029-1400				
		XPages Extension Library Designer Feature	9.0.1.v00_01_20131029-1400				
	🗸 🖗	Domino Access Services (DAS)	9.0.1.v00_01_20131029-1400				
	1	XPages Extension Library Source Feature	9.0.1.v00_01_20131029-1400				
	🗸 🖗	XPages Extension Library Feature	9.0.1.v00_01_20131029-1400				
	1	Domino Wink	9.0.1.v00_01_20131029-1400				
		Extended Components Library for XPages Extension Feature	9.0.1.v00_01_20131029-1400				
	1	Extended Components Library for XPages Extension Feature	9.0.1.v00_01_20131029-1400				
	🗸 🖗	Extended DAS Services Feature	9.0.1.v00_01_20131029-1400				
	× 🖗	Apache Wink 1.1.2.20131029-1					

Again, the Domino server is now ready to include these plugins as part of the runtime. And it is worth noting here the Update Site NSF must be included in the Domino server's notes.ini variable OSGI HTTP DYNAMIC BUNDLES. For example, OSGI\_HTTP\_DYNAMIC\_BUNDLES=updateSite1.nsf.

The HTTP task must be restarted on the Domino server for the runtime to pick up these new plugins - "**restart task http**" - and if successful the following message will appear in the server console stating that "...**NSF Based plugins are being installed in the OSGi runtime...**"

To further verify that the XPages Extension Library plugins from OpenNTF are now running, type in on the server's console "**tell http osgi ss com.ibm.xsp.extlib**". A list should appear on the console detailing the deployed plugins on the server; IBM and OpenNTF plugins deployed at the same time.

One may notice the duplicate plugins, except for the version's naming convention. These however are not duplicates to the XPages runtime. The plugin with the highest version qualifier will be the plugin which will take precedence over the other. Usually the version with the latest date stamp will have precedence, but the "v00 00" part is also included in the comparison. To verify the version number of the XPages Extension Library used by the the runtime the developer can simply add the following computed label to a XPage as in Listing 02.

#### Listing 02

This should match the newly imported ExtLib from OpenNTF as shown in Figure 05.

### Figure 05

XPages ExtLib version: 9.0.1.v00\_01\_20131029-1400

For Domino Designer, the developer may install the ExtLib update site, using the same target. This can be achieved by selecting the **File > Application > Install** menu option in Domino Designer. Then from the **Install/Update** dialog, select to "Search for new features to install". On the following dialog select the button to add a remote location - add the URL to the above update site NSF as shown in Figure 06.

#### Figure 06

<u>&gt;</u>	New Update Site					
Name:	updatesite NSF					
URL:	http://myDominoServer.com/updatesite.nsf					
		ОК	Cancel			

This will require Domino Designer to be restarted. Once this is completed, Domino Designer will have installed the same ExtLib that is deployed on the server.

There are other ways to install the library, like installing the updateSiteOpenNTFdesigner.zip file into Designer or manually extracting the features and plugins from this zip to a physical location on the server file system (the domino\workspace\applications\eclipse sub-folder under Domino root directory).

# **Supported Platforms**

The OpenNTF XPages Extension Library supports the same list of hardware and software configurations as IBM Notes Domino 9.0.1.

This particular version of the Extension Library was tested upon a number of platforms like the WebKit browsers of Chrome and Safari and a range of mobile devices, phones and tablets, namely the iOS and Android platforms.

# SPR Fixes

- BGLN9PXCS3\_901\_N\_extlib\_oneui302\_applayout\_banner\_link\_issue
- MKEE9PWDYQ\_9.0.1N\_extlib\_change plugin depends ordering
- MKEE9NVHEW\_9.0.1N\_extlib\_add logging for exceptions in JavaDumpFactory
- LHEY93LGM3\_9.0.1N\_extlib\_deprecate xe:djButton "required" property, but not xe:djRadioButton subclass prop
- PEDS9NSJMG\_XLIB9.0.1\_N\_fix\_for\_picker\_proxy\_issue
- update incorrect ByteArrayOutputStream import
- GMAM9PBDPA\_901N\_extlib-des\_Single Page Application Wizard Hidden view columns and columns without titles not being displayed properly in the Wizard
- WJBJ9QA47W\_901N\_extlib Can't create a draft that's completely empty
- PHEY9PPTAP\_901N\_etlib Fix problem with REST requests with a space in db path
- KHRL9NZTRZ\_901N\_extlib Data service: Limit the page size when reading view entries
- WJBJ9PA4K3\_901N\_extlib Return HTTP 400 for bad sort parameters
- WJBJ9PE86G\_901N\_extlib Should be able to read MIME messages without a body
- WJBJ9MZ9U9 901N extlib Fix bad Location value when creating a new resource
- WJBJ9QA47W\_901N\_rest-ext Can't create a draft that's completely empty
- WJBJ9PA4K3 901N rest-ext Return HTTP 400 for bad sort parameters
- WJBJ9PA3X2\_901N\_rest-ext Count and page size parameters can't be zero

# Appendix 1

# Source Change Log since the 901v00\_03.20140120-0650 OpenNTF Release

The following is a list of changes made since the 7th release of the 9.0.1 ExtLib to OpenNTF:

- Adding support for the XPages Bootstrap Responsive Theme
- Responsive Theming: Designer Application Layout Wizard Phase 1
- BGLN9PXCS3\_901\_N\_extlib\_oneui302\_applayout\_banner\_link\_issue
- MKEE9PWDYQ\_9.0.1N\_extlib\_change plugin depends ordering
- junits, related to SPR#LHEY93LGM3, update ExtlibNamingConventionTest for new group
- MKEE9NVHEW\_9.0.1N\_extlib\_add logging for exceptions in JavaDumpFactory
- LHEY93LGM3\_9.0.1N\_extlib\_deprecate xe:djButton "required" property, but not
- xe:djRadioButton subclass prop
- (no-SPR)\_9.0.1N\_extlib\_junits, update TestProject to find JavaScriptPropertyResolverFactory, since extsn RenderPagesTest
- junits, reduce use of extra.depends option in config.properties by adding autoinstalled

libs to depends

- PEDS9NSJMG\_XLIB9.0.1\_N\_fix\_for\_picker\_proxy\_issue
- update incorrect ByteArrayOutputStream import
- GMAM9PBDPA\_901N\_extlib-des\_Single Page Application Wizard Hidden view columns and columns without titles not being displayed properly in the Wizard
- WJBJ9QA47W\_901N\_extlib Can't create a draft that's completely empty
- NOSPR\_901N\_extlib Calendar service: Hide homeServer property from SCN
- PHEY9PPTAP\_901N\_etlib Fix problem with REST requests with a space in db path
- KHRL9NZTRZ\_901N\_extlib Data service: Limit the page size when reading view entries
- WJBJ9PA4K3\_901N\_extlib Return HTTP 400 for bad sort parameters
- NOSPR\_901N\_extlib Mail service shouldn't write email property when it's empty
- WJBJ9PE86G\_901N\_extlib Should be able to read MIME messages without a body
- WJBJ9MZ9U9\_901N\_extlib Fix bad Location value when creating a new resource
- NOSPR\_901N\_extlib SAAS only: Reject API requests from self service trial customers
- NOSPR\_901N\_extlib Add session parameter to isFeatureEnabled in
- IgatekeeperProvider
- NOSPR\_901N\_extlib Clean up REST plugins for move to GitHub
- WJBJ9QA47W\_901N\_rest-ext Can't create a draft that's completely empty
- NOSPR\_901N\_rest-ext Mail service: Hide homeServer property in SCN
- WJBJ9PA4K3\_901N\_rest-ext Return HTTP 400 for bad sort parameters
- WJBJ9PA3X2\_901N\_rest-ext Count and page size parameters can't be zero
- NOSPR\_901N\_rest-ext Move das.debug plugin to rest-ext