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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 Similarly, the older version of jQuery, v1.11, has been replaced by jQuery v2.1.1 in the XRB plugin.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 (https://github.com/scottjehl/Respond), 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.

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.
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.
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.

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-column-left 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:

```
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).
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.
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.
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: http://glyphicons.com

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:

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:

```xml
<xp:panel id="panel1" style="width:320px;margin: 10px;">
    <xp:div id="div1" styleClass="glyphicon glyphicon-shopping-cart"></xp:div>
    <xp:div id="div2">
        <xp:label value="My Label" id="label1"></xp:label>
    </xp:div>
    <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" style="color:green;"/>
    </xp:div>
    <xp:div id="div4" style="padding-bottom:10px;">
        <ul id="tabs" class="nav nav-tabs" role="tablist">
            <li class="active">
                <xp:link styleClass="glyphicon glyphicon-home" style="font-size:28px" value="#"></xp:link></li>
            <li><xp:link styleClass="glyphicon glyphicon-cloud" style="font-size:28px" value="#"></xp:link></li>
            <li><xp:link styleClass="glyphicon glyphicon-phone" style="font-size:28px" value="#"></xp:link></li>
            <li><xp:link styleClass="glyphicon glyphicon-thumbs-up" style="font-size:28px" value="#"></xp:link></li>
            <li><xp:link styleClass="glyphicon glyphicon-globe" style="font-size:28px" value="#"></xp:link></li>
        </ul>
    </xp:div>
    <xp:div>
        <xp:button id="button1" styleClass="glyphicon glyphicon-star btn-primary" style="font-size:16pt;color:white"></xp:button>
        <xp:button id="button2" styleClass="glyphicon glyphicon-ok btn-success" style="font-size:16pt;color:white"></xp:button>
        <xp:button id="button3" styleClass="glyphicon glyphicon-info-sign btn-info" style="font-size:16pt;color:white"></xp:button>
        <xp:button id="button4" styleClass="glyphicon glyphicon-exclamation-sign btn-warning" style="font-size:16pt;color:white"></xp:button>
        <xp:button id="button5" styleClass="glyphicon glyphicon-remove btn-danger" 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 straightforward, 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:

```xml
<xp:this.resources>
  <xp:script src="/ibmxspres/extend/jquery/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:

```xml
<theme extends="Bootstrap3.2.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="platform:/plugin/com.ibm.designer.domino.stylekits/schema/stylekit.xsd">
  <resource content-type="application/x-javascript" href="/ibmxspres/extend/jquery/jquery-2.1.1.js"/>
</theme>
```

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

```xml
<xp:scriptBlock id="script1">
  <xp:this.value><![CDATA[
  XSP.addOnLoad( function() {
    $('*[id$="myText"]').html("This is JQUERY!");
  });
  ]]>]
</xp:this.value>
</xp:scriptBlock>

<T:div id="myText"></T:div>
```
OR add it to the onClientLoad event of an XPage or Custom Control:

```html
<xp:button value="Click me" id="button1">
  <xp:eventHandler event="onclick" submit="false">
    <xp:this.script><![CDATA[
      function view_id__id0_clientSide_onClientLoad(even) {
        $('*[id$="myText"]').html("This is JQUERY!");
      }
    ]]> <![CDATA[
    ]]></xp:this.script>
  </xp:eventHandler>
</xp:button>

<xp:div id="myText">No jquery :(</xp:div>
```
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/2012/02/02/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 Bootstrap4XPages 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:

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/](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:

```xml
<xp:this.resources>
  <xp:script src="/ibmxspres/domino/jquery/jquery.1.x.min.js" clientSide="true"/>
</xp:this.resources>
```
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:

```xml
<theme extends="Bootstrap3.2.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xD="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="platform:/plugin/com.ibm.designer.domino.stylekits/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: [https://github.com/scottjehl/Respond/tree/master/dest](https://github.com/scottjehl/Respond/tree/master/dest)
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:

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

```xml
<theme extends="Bootstrap" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xD="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="platform:/plugin/com.ibm.designer.domino.stylekits/schema/stylekit.xsd">  
  <resource rendered="#{javascript:context.getUserAgent().isIE(7,8)}">  
    <content-type>application/x-javascript</content-type>  
    <href>/../ibmxspres/domino/respond/respond.min.js</href>  
  </resource>  
</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.
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>
<thead>
<tr>
<th>Artifact</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>doclib8xld.ntf</td>
<td>A sample version of the Domino Doc Library template based on 8.5.3 version XPages Extension Library and the 8.5.3 core.</td>
</tr>
<tr>
<td>Domino FreeBusy Service.pdf</td>
<td>Document describing the Domino Freebusy service included in this release of the extension library.</td>
</tr>
<tr>
<td>Domino Mail Service.pdf</td>
<td>Document describing the Domino mail service included in this release of the extension library.</td>
</tr>
<tr>
<td>FirebugLiteLicense</td>
<td>License information for the Firebug Lite client side debugger.</td>
</tr>
<tr>
<td>iCAL4JLicense</td>
<td>License information for the iCalendar specification in Java application for Notes Domino.</td>
</tr>
<tr>
<td>LICENSE</td>
<td>Details of the Apache License governing use, reproduction and distribution of the XPages Extension Library on OpenNTF.org.</td>
</tr>
<tr>
<td>NOTICE</td>
<td>File containing copyright notices from the various technologies that comprise this release of the Extension Library.</td>
</tr>
<tr>
<td>readme.pdf</td>
<td>The document you are reading now.</td>
</tr>
<tr>
<td>SLF4JLicense</td>
<td>License information for the Simple Logging Facade for Java (SLF4J).</td>
</tr>
<tr>
<td>srcOpenNTF.zip</td>
<td>Archive file containing all the sources corresponding to the XPages Extension Library runtime (updateSiteOpenNTF.zip)</td>
</tr>
<tr>
<td>srcOpenNTF-designer.zip</td>
<td>Archive file containing all the sources corresponding to the Domino Designer tooling for XPages Extension Library runtime.</td>
</tr>
<tr>
<td>srcOpenNTFSamples.zip</td>
<td>Archive file containing source samples for services in Domino Access Services.</td>
</tr>
<tr>
<td>SrcRestOpenNTF.zip</td>
<td>Archive file containing all the sources corresponding to the REST mail and freebusy service</td>
</tr>
<tr>
<td>updateSiteOpenNTF.zip</td>
<td>Eclipse update site that includes all of the XPages Extension Library runtime features and plugins, including experimental plug-ins.</td>
</tr>
<tr>
<td>updateSiteOpenNTF-designer.zip</td>
<td>Eclipse update site that includes all of the XPages Extension Library features and plugins, including experimental plug-ins and Domino Designer tooling plug-ins.</td>
</tr>
<tr>
<td>updateSiteOpenNTFExtended.zip</td>
<td>Eclipse updates site that only includes Extended Components (ExtLibX) of the XPages Extension Library runtime features and plugins and Domino Designer tooling plug-ins.</td>
</tr>
<tr>
<td>updateSiteOpenNTFSamples.zip</td>
<td>Eclipse updates site for the Domino Access Services sample.</td>
</tr>
<tr>
<td>XPages Extension Library - Slides.pdf</td>
<td>Collection of slides providing high level overview of XPages Extension Library concepts and features.</td>
</tr>
<tr>
<td>XPages Goes Relational.odp</td>
<td>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.</td>
</tr>
<tr>
<td>XPages-Doc.zip</td>
<td>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.</td>
</tr>
<tr>
<td>XPagesExt.nsf</td>
<td>The standard demonstration application covering most of the XPages Extension Library controls.</td>
</tr>
</tbody>
</table>
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 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.
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

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

```plaintext
> tell http osgi ss com.ibm.xsp.extlibx
31/10/2013 12:27:57 Framework 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>> 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.ibm.domino.services
31/10/2013 12:29:24 Framework is launched.
31/10/2013 12:29:24 id State Bundle
31/10/2013 12:29:24 15 <<LAZY>> com.ibm.domino.services.mail_9.0.1.v00_01_20131029-1400
31/10/2013 12:29:24 20 <<LAZY>> com.ibm.domino.services.freebusy_9.0.1.v00_01_20131029-140
31/10/2013 12:29:24 135 <<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](image)

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](image)
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 runtime the developer can simply add the following computed label to a XPage as in Listing 02.

Listing 02

```xml
<xp:label id="label1">
  <xp:this.value><![CDATA[#{javascript:var v = com.ibm.xsp.extlib.util.ExtLibUtil.getExtLibVersion();
return "XPages ExtLib version: "+v}]]></xp:this.value>
</xp:label>
```

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](image)

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

![New Update Site](image)
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 updateSiteOpenNTF-designer.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_901N_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
- LHEY93LGW3_9.0.1N_extlib_deprecate xe:djButton "required" property, but not xe:djRadioButton subclass prop
- PEDS9NSJMG_XLIB9.0.1N_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
- WJB9QQA47W_901N_extlib Can't create a draft that's completely empty
- PHEY9PPTAP_901N_extlib Fix problem with REST requests with a space in db path
- KHRL9NZTRZ_901N_extlib_Data service: Limit the page size when reading view entries
- WJB9PA4K3_901N_extlib Return HTTP 400 for bad sort parameters
- WJB9PE86G_901N_extlib_Should be able to read MIME messages without a body
- WJB9MZUG9_901N_extlib Fix bad Location value when creating a new resource
- WJB9QA47W_901N_rest-ext Can't create a draft that's completely empty
- WJB9PA4K3_901N_rest-ext_Return HTTP 400 for bad sort parameters
- WJB9PA3X2_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
- junit5, 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
- junit5, 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
- WJB9QA47W_901N_extlib Can't create a draft that's completely empty
- NOSPR_901N_extlib Calendar service: Hide homeServer property from SCN
- PHEY9PPTAP_901N_extlib Fix problem with REST requests with a space in db path
- KHRL9NZTRZ_901N_extlib Data service: Limit the page size when reading view entries
- WJB9PA4K3_901N_extlib Return HTTP 400 for bad sort parameters
- NOSPR_901N_extlib Mail service shouldn't write email property when it's empty
- WJB9PE86G_901N_extlib Should be able to read MIME messages without a body
- WJB9MZ9U9_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
- WJB9QA47W_901N_rest-ext Can't create a draft that's completely empty
- NOSPR_901N_rest-ext Mail service: Hide homeServer property in SCN
- WJB9PA4K3_901N_rest-ext Return HTTP 400 for bad sort parameters
- WJB9PA3X2_901N_rest-ext Count and page size parameters can't be zero
- NOSPR_901N_rest-ext Move das.debug plugin to rest-ext