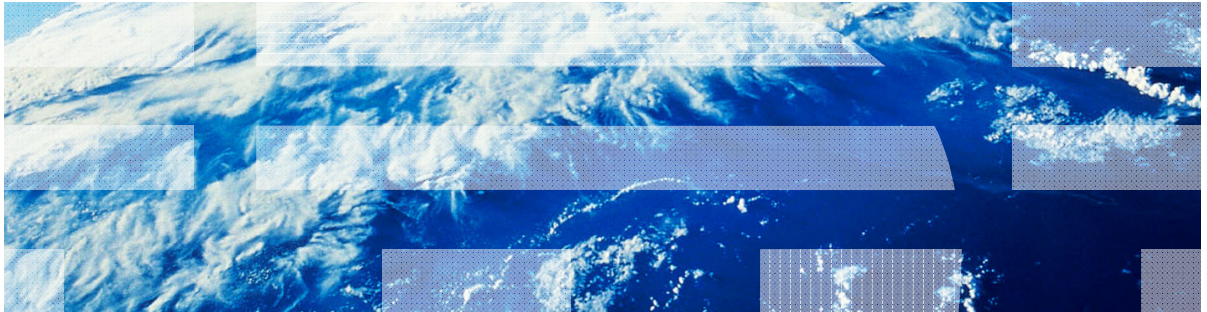


IBM Worklight V5.0.5 Getting Started

Module 5.2 – Creating HTTP adapters



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Agenda

- What is it?
- How does it work?
- Creating the adapter
- Exercise

What is it?

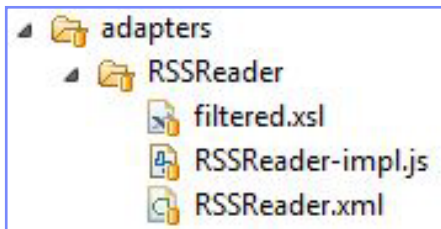
- A Worklight® HTTP adapter:
 - Works with RESTful and SOAP-based services
 - Can read structured HTTP sources, for example RSS feeds
 - Allows sending a GET or POST HTTP request and retrieves data from the response headers and body
 - Is easily customizable with simple server-side JavaScript
 - Enables optional server-side filtering
 - Retrieved data can be in XML, HTML, JSON, or plain text formats

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How Does it Work?

- The adapter is configured with XML
- Basic adapter structure:



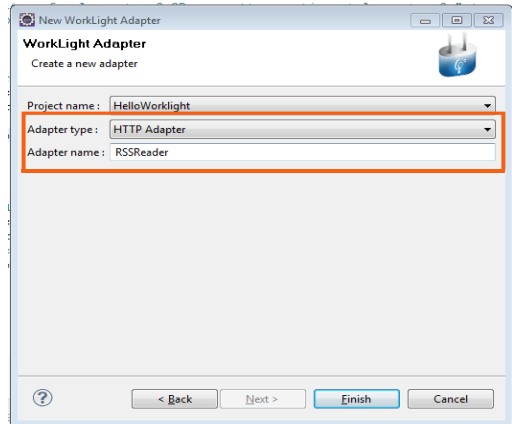
- Use XML to define the adapter properties and procedures
- Use JavaScript to create procedures
- *Optional:* Use XSL to filter received records and fields

Agenda

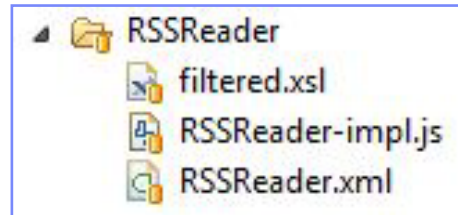
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Creating the HTTP adapter

- Within the Worklight Studio, right-click the Worklight project and add a Worklight HTTP adapter

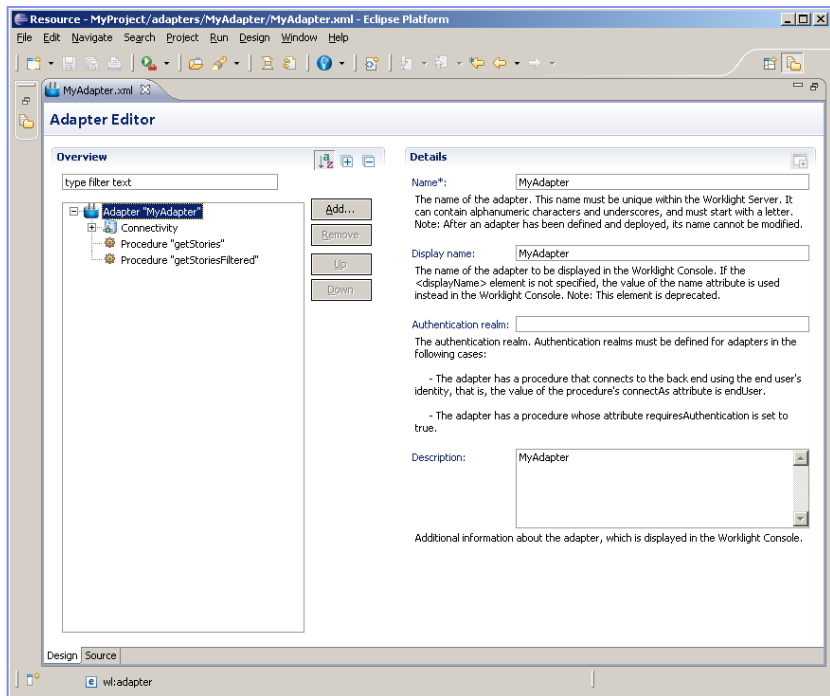


- A standard adapter structure is created



Adapter XML editor

- Settings and metadata are stored in the adapter XML file
- You can use either Design or Source editor to modify the adapter XML file



XML File: Connectivity Settings

- To edit the adapter XML file, you need to:
 - Set protocol to HTTP or HTTPS
 - Set HTTP domain to domain part of HTTP URL
 - Set TCP Port

```
<connectivity>
  <connectionPolicy xsi:type="http:HTTPConnectionPolicyType">
    <protocol>http</protocol>
    <domain>engadget.com</domain>
    <port>80</port>
  </connectionPolicy>
  <loadConstraints maxConcurrentConnectionsPerNode="2"/>
</connectivity>
```

XML File: Procedures Declaration

- Edit the adapter XML file
- Declare the required procedures

```
<wl:adapter
  xmlns:wl="http://www.worklight.com/integration"
  xmlns:http="http://www.worklight.com/integration/http"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" name="RSSReader">

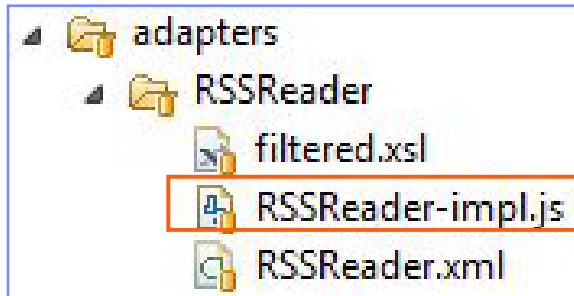
  <displayName>RSSReader</displayName>
  <description>RSSReader</description>
  <connectivity>
    <connectionPolicy xsi:type="http:HTTPConnectionPolicyType">
      <protocol>http</protocol>
      <domain>engadget.com</domain>
      <port>80</port>
    </connectionPolicy>
    <loadConstraints maxConcurrentConnectionsPerNode="2"/>
  </connectivity>

  <procedure name="getFeeds"/>
  <procedure name="getFeedsFiltered"/>

</wl:adapter>
```

JS File: Procedures Implementation

- Procedures are implemented in the adapter JavaScript file



JS File: Procedures Implementation

- The service URL is used for procedure invocation.
- Some parts of the URL are constant; for example, <http://example.com/>. They are declared in the XML file.
- Other parts of the URL can be parameterized, that is, substituted at runtime by parameter values provided to the Worklight Procedure.
- URL parts that can be parameterized are:

- Path elements
- Query string parameters
- Fragments

http://example.com/rest/customers?custid=12

- See the IBM Worklight Information Center for advanced options for adapters, such as cookies, headers, and encoding.

JS File: Procedures Implementation

- The procedure name in the JavaScript file must be the same as in the XML file
- The required invocation parameters are method, path, and returnedContentType
- The procedure can be parameterized at run time

```
<connectivity>
  <connectionPolicy xsi:type="http:HT
    <protocol>http</protocol>
    <domain>rss.cnn.com</domain>
    <port>80</port>
  </connectionPolicy>
  <loadConstraints maxConcurrentConne
</connectivity>

<procedure name="getStories"/>
<procedure name="getStoriesFiltered"/>
```

The procedure XML file



```
function getStories(interest) {
  path = getPath(interest);

  var input = {
    method : 'get',
    returnedContentType : 'xml',
    path : path
  };

  return WL.Server.invokeHttp(input);
}
```

The procedure JavaScript file

JS File: Procedures Implementation

- To invoke an HTTP request, use the `WL.Server.invokeHttp` method
- Provide an input parameters object
- You must specify:
 - The HTTP method: GET or POST
 - The returned content type: XML, JSON, HTML, or plain
 - The service path
 - The query parameters (optional)
 - The request body (optional)
 - The transformation type (optional)
 - For a complete list of invocation options, see the IBM Worklight Information Center

```
function getStoriesFiltered(interest) {  
    path = getPath(interest);  
  
    var input = {  
        method : 'get',  
        returnedContentType : 'xml',  
        path : path,  
        transformation : {  
            type : 'xslFile',  
            xslFile : 'filtered.xsl'  
        }  
    };  
  
    return WL.Server.invokeHttp(input);  
}
```

XSL Transformation Filtering

- XSL transformation can be applied to the received data
- Can be used to filter received data
- To apply, specify the transformation options in the procedure invocation input parameters

```
function getStoriesFiltered(interest) {  
    path = getPath(interest);  
  
    var input = {  
        method : 'get',  
        returnedContentType : 'xml',  
        path : path,  
        transformation : {  
            type : 'xslFile',  
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        }  
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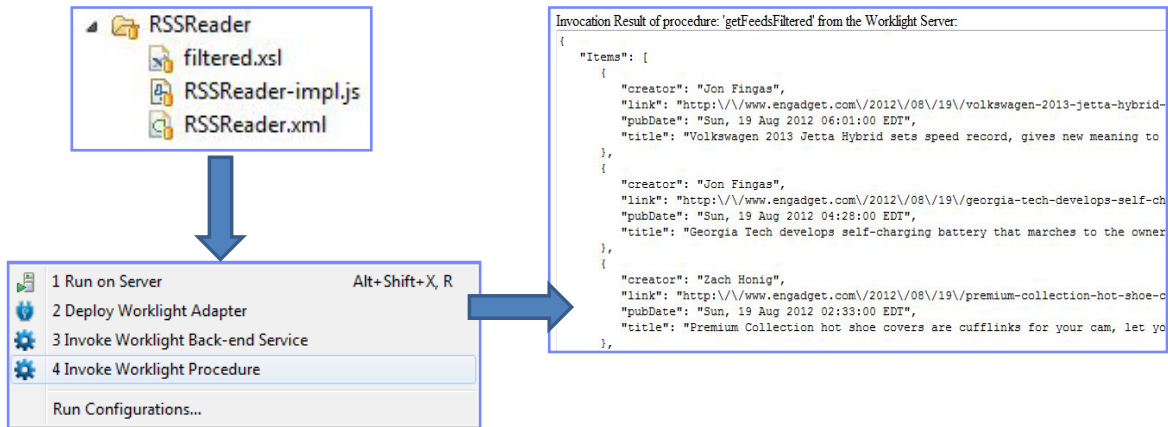
Exercise

Engadget RSS Reader

- Create a Worklight HTTP adapter called RSSReader
- Connect to the Engadget RSS feed at <http://engadget.com/rss.xml>
- Declare and implement a getFeeds procedure which retrieves the RSS feed
- Declare and implement a getFeedsFiltered procedure which does the same as getFeeds, but returns only the title, the creator, the pubDate, and the link fields
- Deploy the adapter and use the Worklight Studio to test your procedures as described in this module

Exercise Solution

- The sample for this training module can be found on the Getting Started page of the IBM Worklight documentation website at <http://www.ibm.com/mobile-docs>



Check yourself questions

- HTTP adapters can be used to:
 - Work with RESTful services
 - Work with SOAP services
 - Issue GET and POST requests
 - All of the above
- What format of data can the HTTP adapter retrieve and automatically parse ?
 - XML
 - JSON
 - Plain text
 - All of the above
- Can I use the HTTP adapter with non-standard HTTP ports ?
 - You must use port 80 for HTTP and port 443 for HTTPS
 - You can use any port for HTTP but only port 443 for HTTPS
 - You must use port 80 for HTTP but can use any port for HTTPS
 - It is possible to use any port for both HTTP and HTTPS

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