Java HTTP Adapter

Overview

This tutorial is a continuation of Java Adapter (../../../server-side-development/java-adapter/) and assumes previous knowledge of the concepts described there.

Java adapters provide free reign over connectivity to your backend. It is therefore your responsibility to ensure best practices regarding performance and other implementation details.

This tutorial shows an example of a Java adapter that connects to an RSS feed by using a Java `HttpClient`.

Topics:

- RSSAdapterApplication
- RSSAdapterResource
- Results

RSSAdapterApplication

`RSSAdapterApplication` extends `MFPJAXRSApplication` and is a good place to trigger any initialization required by your application.

```
@Override
protected void init() throws Exception {
    RSSAdapterResource.init();
    logger.info("Adapter initialized!");
}
```

RSSAdapterResource

```
@Path("/")
public class RSSAdapterResource {
}
```

`RSSAdapterResource` is where we handle the requests to your adapter.

`@Path("/")` means that the resources will be available at the URL `http(s)://host:port/ProjectName/adapters/AdapterName/`.

HTTP Client

```
private static CloseableHttpClient client;
private static HttpHost host;
public static void init() {
   client = HttpClients.createDefault();
   host = new HttpHost("developer.ibm.com")
;
}
```

Because every request to your resource will create a new instance of `RSSAdapterResource`, it is important to reuse objects that may impact performance. In this example we made the Http client a `static` object and initialized it in a static `init()` method, which gets called by the `init()` of `RSSAdapterApplication` as described above.

Procedure resource

```
@GET
@Produces("application/json")
public void get(@Context HttpServletResponse response, @QueryParam("tag") String tag) throws Cl
ientProtocolException, IOException, IllegalStateException, SAXException {
   if(tag!=null &amp;amp;&amp;amp; !tag.isEmpty()){
    execute(new HttpGet("/mobilefirstplatform/tag/"+ tag +"/feed"), response);
   } else{
    execute(new HttpGet("/mobilefirstplatform/feed"), response);
   }
}
```

Our adapter exposes just one resource URL which allows to retrieve the RSS feed from the backend service.

- `@GET` means that this procedure only responds to `HTTP GET` requests.
- `@Produces("application/json")` specifies the Content Type of the response to send back. We chose to send the response as a `JSON` object to make it easier on the client-side.
- `@Context HttpServletResponse response` will be used to write to the response output stream. This enables us more granularity than returning a simple string.
- `@QueryParam("tag")` String tag enables the procedure to receive a parameter. The choice of `QueryParam` means the parameter is to be passed in the query (`/RSSAdapter/?tag=MobileFirst_Platform`). Other options include `@PathParam`, `@HeaderParam`, `@CookieParam`, `@FormParam`, etc.
- `throws ClientProtocolException, ...` means we are forwarding any exception back to the client. The client code is responsible for handling potential exceptions which will be received as `HTTP 500` errors. Another solution (more likely in production code) is to handle exceptions in your server Java code and decide what to send to the client based on the exact error.
- `execute(new HttpGet("/mobilefirstplatform/feed"), response)`. The actual HTTP request to the backend service is handled by another method defined later.

Depending if you pass a `tag` parameter, `execute` will retrieve a different build a different path and retrieve a different RSS file.

execute()

```
public void execute(HttpUriRequest req, HttpServletResponse resultResponse) throws ClientProtocol
Exception, IOException,
 IllegalStateException, SAXException {
   HttpResponse RSSResponse = client.execute(host, req);
   ServletOutputStream os = resultResponse.getOutputStream();

   if (RSSResponse.getStatusLine().getStatusCode() == HttpStatus.SC_OK){
      resultResponse.addHeader("Content-Type", "application/json");
      String json = XML.toJson(RSSResponse.getEntity().getContent());
      os.write(json.getBytes(Charset.forName("UTF-8")));</p>
   } else {
      resultResponse.setStatus(RSSResponse.getStatusLine().getStatusCode());
      RSSResponse.getEntity().getContent().close();
      os.write(RSSResponse.getStatusLine().getReasonPhrase().getBytes());
   }
   os.flush();
   os.close();
}
```

- `HttpResponse RSSResponse = client.execute(host, req)`. We use our static HTTP client to execute the HTTP request and store the response.
- `ServletOutputStream os = resultResponse.getOutputStream()`. This is the output stream to write a response to the client.
- `resultResponse.addHeader("Content-Type", "application/json")`. As mentioned before, we chose to send the response as JSON.
- `String json = XML.toJson(RSSResponse.getEntity().getContent())`. We used `org.apache.wink.json4j.utils.XML` to convert the XML RSS to a JSON string.
- `os.write(json.getBytes(Charset.forName("UTF-8")))` the resulting JSON string is written to the output stream.

The output stream is then `flush`ed and `close`d.

If `RSSResponse` is not `200 OK`, we write the status code and reason in the response instead.

Results

Use the testing techniques described in Java Adapter (../#testing) to test your work.

The adapter should return the RSS feed converted to JSON.


```
{
  "rss": {
    "channel": {
      "description": "Develop, test, manage, and secure your mobile web, native and hybrid apps",
      "generator": "http:\/\/wordpress.org\/?v=4.2.4",
      "item": [
        {
          "category": [
            "Mobile",
            "android",
            "Mobile Quality Assurance",
```

```
            "mobile_development",
            "mobilefirst",
            "xamarin"
          ],
          "commentRss": "https:\/\/developer.ibm.com\/mobilefirstplatform\/2015\/09\/01\/integrating-mqa-into-xamarin-android-app\/feed\/",
          "comments": [
            "https:\/\/developer.ibm.com\/mobilefirstplatform\/2015\/09\/01\/integrating-mqa-into-xamarin-android-app\/#comments",
            "0"
          ],
          "creator": "Vidyasagar MSC",
          "description": "<p>The post <a rel=\"nofollow\" href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/2015\/09\/01\/integrating-mqa-into-xamarin-android-app\/\">Integrating MQA into Xamarin.Android app<\/a> appeared first on <a rel=\"nofollow\" href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\">IBM MobileFirst Platform<\/a>.<\/p>",
          "encoded": "<p>It all startedÂ when I received an email seeking help on using MQA or to be more precise integrating MQA into Xamarin based android app. Before jumping into addressing the problem, let&amp;#8217;s define MQA.<\/p>\n<h4>What is MQA?<\/h4>\n<p>MQA stands for &amp;#8220;Mobile Quality Assurance&amp;#8221; and is part of the IBM MobileFirst Platform.<\/p>\n<blockquote><p><em><span style=\"line-height: 1.5\">IBM MQA provides line of business professionals and development teams with insightful and streamlined quality feedback and metrics from both pre-production and production, enabling them to prioritize and take action to support a dynamic mobile app strategy.<\/span><\/em><\/p><\/blockquote>\n<p>The Features of MQA are<\/p>\n<div style=\"width: 1058px\" class=\"wp-caption aligncenter\"><a href=\"http:\/\/vidyasagarmsc.com\/wp-content\/uploads\/2015\/09\/MQA1.png\"><img class=\"size-full wp-image-65\" src=\"http:\/\/vidyasagarmsc.com\/wp-content\/uploads\/2015\/09\/MQA1.png\" alt=\"Features of Mobile Quality Assurance.\" width=\"1048\" height=\"350\" \/><\/a><p class=\"wp-caption-text\">Features of Mobile Quality Assurance.<\/p><\/div>\n<p><em><strong>Note<\/strong><\/em>: To understand more about MQA, visitÂ <a href=\"http:\/\/www-03.ibm.com\/software\/products\/en\/ibm-mobilefirst-platform-quality-assurance\">IBM Mobile Quality Assurance<\/a><\/p>\n<p>So, by now we should be good with the first part of our blog title that is MQA. So, the next question is<\/p>\n<h4>What is Xamarin.Android?<\/h4>\n<p>Xamarin is a platform to create nativeÂ iOS, Android, Mac and Windows apps in C#.Â Xamarin.Android allows us to create native Android applications using the same UI controls we would in Java, except with the flexibility and elegance of a modern language (C#).<\/p>\n<p>As we are good with the definitions, let&amp;#8217;s address the problem.<\/p>\n<p><strong>What&amp;#8217;s the problem in integrating MQA into Xamarin Android app?<\/strong><\/p>\n<p>At the time of this blog post, the available MQA SDKs are iOS native SDK, Android native SDK and Javascript Â SDK.<\/p>\n<p>So, we have to find a workaround to address this use-case. The initial step is to download the Android MQA SDK and see what&amp;#8217;s provided. you can download it from <a href=\"http:\/\/www-01.ibm.com\/support\/knowledgecenter\/#!\/SSJML5_6.0.0\/com.ibm.mqa.uau.saas.doc\/topics\/c_AndroidSDKsForDownload.html\">here<\/a>. Once successfully downloaded and unzipped, we should see a jar file namely <strong><em>MQA-Android-library-&amp;lt;version number&amp;gt;.jar<\/em>Â  <\/strong>under lib folder<strong>.<\/strong><\/p>\n<div style=\"width: 634px\" class=\"wp-caption aligncenter\"><a href=\"http:\/\/vidyasagarmsc.com\/wp-content\/uploads\/2015\/09\/MQA2.png\"><img class=\"size-full wp-image-70\" src=\"http:\/\/vidyasagarmsc.com\/wp-content\/uploads\/2015\/09\/MQA2.png\" alt=\"MQA Android SDK \" width=\"624\" height=\"440\" \/><\/a><p class=\"wp-caption-text\">MQA Android SDK<\/p><\/div>\n<p>As Xamarin is C# based, What can we do with this jar file?<\/p>\n<p>We haveÂ <strong>Xamarin bindings<\/strong> to our rescue, which helps using in consuming .JARs from C#.<\/p>\n<p><strong><em>Note<\/em>:<\/strong> Steps to consume MQA Android JAR in a Xamarin.Android app is mentionedÂ <a href=\"https:\/\/developer.xamarin.com\/guides\/android\/advanced_topics\/java_integration_overview\/binding_a_java_library_(.jar)\/\">here<\/a><\/p>\n<div style=\"width: 257px\" class=\"wp-caption aligncenter\"><a href=\"http:\/\/vidyasagarmsc.com\/wp-content\/uploads\/2015\/09\/MQA31.png\"><img class=\"wp-image-72 size-full\" src=\"http:\/\/vidyasagarmsc.com\/wp-content\/uploads\/2015\/09\/MQA31.png\" alt=\"\" width=\"247\" height=\"303\" \/><\/a><p class=\"wp-caption-text\">Xamarin binding project with MQA Android .JAR file<\/p><\/div>\n<p>The files of our interest here are <strong>MQA-Android-library-2.7.4.jar<\/strong> (Version number may vary) and <strong>Metadata.xml <\/strong><\/p>\n<ul>\n<li>MQA-Android-library-2.7.4.jar file will have all the MQA related classe
```

ta.xml:<\/strong><\/p>\n<ul>\n<li>MQA Android library 2.7.4.jar file will have all the MQA related classes and methods required for us to start an Android MQA session.<\/li>\n<li>Metadata.xml- Allows changes to be made to the final API, such as changing the namespace of the generated binding.<\/em><\/li>\n<\/ul>\n<p>Based on the errors thrown while building the project, Metadata.xml in my case looks like this<\/p>\n<pre class=\"brush: xml; title: ; notranslate\"><metadata>\n <!--\n This sample removes the class: android.support.v4.content.AsyncTaskLoader.LoadTask:\n <remove-node path="\/api\/package[@name='android.support.v4.content']\/class[@name='AsyncTaskLoader.LoadTask']" \/>\n \n This sample removes the method: android.support.v4.content.CursorLoader.loadInBackground:\n <remove-node path="\/api\/package[@name='android.support.v4.content']\/class[@name='CursorLoader']\/method[@name='loadInBackground']" \/>\n -->\n\n <remove-node path="\/api\/package[@name='ext.com.google.inject.spi']\/class[@name='InjectionPoint.Factory.1']"\/>\n <remove-node path="\/api\/package[@name='ext.com.google.inject.spi']\/class[@name='InjectionPoint.Factory.2']"\/>\n <remove-node path="\/api\/package[@name='com.applause.android.log']\/interface[@name='LoggerInterface']"\/>\n <remove-node path="\/api\/package[@name='ext.com.google.inject.internal']"\/>\n <remove-node path="\/api\/package[@name='ext.com.google.inject.matcher']"\/>\n <remove-node path="\/api\/package[@name='com.applause.android.util']\/class[@name='AbstractRequest']"\/>\n <remove-node path="\/api\/package[@name='ext.com.google.inject.spi']\/class[@name='Elements.RecordingBinder']\/method[@name='bind' and count(parameter)=1 and parameter[1][@type='ext.com.google.inject.Key']]"\/>\n\n<attr path="\/api\/package[@name='com.applause.android.messages']\/class[@name='Message']\/field[@name='message']" name="managedName">Message1<\/attr>\n<attr path="\/api\/package[@name='com.applause.android.log']" name="managedName">log<\/attr>\n<\/metadata>\n\n<\/pre>\n<p>Once all the errors are fixed and your binding project builds successfully, add a new Xamarin Android project (if you haven’t added yet). Now, add MQA binding project reference in our Xamarin android app. Note:<\/strong><\/em> Both your binding project and Xamarin.Android project should be of same target framework.Â <\/strong>You can verify this by right clicking on your project -> Options -> General.<\/p>\n<div id=\"attachment_83\" style=\"width: 270px\" class=\"wp-caption aligncenter\"><a href=\"http:\/\/vidyasagarmsc.com\/wp-content\/uploads\/2015\/09\/MQA5.png\"><\/a><p class=\"wp-caption-text\">Xamarin Android project with added reference to MQA<\/p><\/div>\n<p>Now, let’s start MQA android session in our Count.Android app. Before doing this, we should create a MQA service on IBM Bluemix. You can follow the instructions mentioned atÂ <a href=\"https:\/\/www.ng.bluemix.net\/docs\/#services\/MobileQualityAssurance\/index.html#MobileQualityAssurance\">Getting started with Mobile Quality Assurance- Bluemix<\/a>Â or watch this video.<\/p>\n<p><iframe class='youtube-player' type='text\/html' width='980' height='582' src='https:\/\/www.youtube.com\/embed\/zHRfGatcKPM?version=3&rel=1&fs=1&showsearch=0&showinfo=1&iv_load_policy=1&wmode=transparent' frameborder='0' allowfullscreen='true'><\/iframe><\/span><\/p>\n<p>Starting aÂ <span class=\"ph\"><span id=\"d6087e24\" class=\"ph\">Mobile Quality Assurance<\/span><\/span>Â session with the Android SDK entails three steps. First, build a configuration to define howÂ <span class=\"ph\"><span id=\"d6087e24-d6083e11a1310\" class=\"ph\">Mobile Quality Assurance<\/span><\/span>Â works with your app. Second, start the session itself. Third, add tracking to your activities. Open MainActivity.cs<\/strong> file (Android Project) and paste the code provided below<\/p>\n<pre class=\"brush: csharp; title: ; notranslate\">using System;\n\nusing Android.App;\nusing Android.Content;\nusing Android.Runtime;\nusing Android.Views;\nusing Android.Widget;\nusing Android.OS;\n\/\/MQA references\nusing Com.Ibm.Mqa.Config;\nusing Com.Ibm.Mqa;\n\n\nnamespace Count.Android\n{\n\t[Activity (Label = "Count.Android", MainLauncher = true, Icon = "@drawable\/icon")]\n\tpublic class MainActivity : Activity\n\t{\n\t\tint count = 1;\n\t\t\/\/Use your own generated APP KEY\n\t\tconst string APP_KEY="1g59b7d884f9fdf5426162e5cb1f87a700648bce4fg0g1g379e0d3a";\n\t\tprotected override void OnCreate (Bundle bundle)\n\t\t{\n\t\t\tbase.OnCreate (bundle);\n\t\t\t\/\/MQA Android session configuration \n\t\t\tConfiguration configuration = new Configuration.Builder(this)\n\t\t\t\t.WithAPIKey(APP_KEY) \/\/Provides the quality assurance application APP_KEY\n\t\t\t\t.WithMode(MQA

thAPIKey(APP_KEY) \/\/Provides the quality assurance application APP_KEY\n\t\t\t\t.WithMode(MQA.Mode.Qa) \/\/Selects the quality assurance application mode\n\t\t\t\t.WithReportOnShakeEnabled(true) \/\/Enables shake report trigger\n\t\t\t\t.WithDefaultUser("default_user@email.com") \/\/Sets a default user and user selection\n\t\t\t\t.Build();\n\n\t\t\t\/\/Starting MQA Android Session\n\t\t\tMQA.StartNewSession (this, configuration);\n\t\t\t\/\/ Set our view from the "main" layout resource\n\t\t\tSetContentView (Resource.Layout.Main);\n\n\t\t\t\/\/ Get our button from the layout resource,\n\t\t\t\/\/ and attach an event to it\n\t\t\tButton button = FindViewById<Button> (Resource.Id.myButton);\n\t\t\t\n\t\t\tbutton.Click += delegate {\n\t\t\tbutton.Text = string.Format ("{0} clicks!", count++);\n\t\t\t};\n\t\t}\n\t}\n}\n\n\n\n<\/pre>\n<p>Now, MQA is integrated into Xamarin.Android app and we are good to go.<\/p>\n<p>What we have implemented above is just a drop in the Ocean of MQA, to know more about MQA and its features – VisitÂ <a href=\"http:\/\/www-01.ibm.com\/support\/knowledgecenter\/?lang=en#!\/SSJML5_6.0.0\/com.ibm.mqa.uau.saas.doc\/mqa600saas_welcome.html\" target=\"_blank\">MQA Knowledge Centre<\/a><\/p>\n<p>Happy Coding !!!<\/p>\n<p>The post <a rel=\"nofollow\" href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/2015\/09\/01\/integrating-mqa-into-xamarin-android-app\/\">Integrating MQA into Xamarin.Android app<\/a> appeared first on <a rel=\"nofollow\" href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\">IBM MobileFirst Platform<\/a>.<\/p>",
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              "0"
            ],
            "creator": "ChethanKumar",
            "description": "<p>The post <a rel=\"nofollow\" href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/2015\/08\/19\/try-on-bluemix-and-buy-mfp\/\">Try on Bluemix and migrate to on-prem MobileFirst Platform<\/a> appeared first on <a rel=\"nofollow\" href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\">IBM MobileFirst Platform<\/a>.<\/p>",
            "encoded": "<p>Contributed By : Chethan Kumar SN (chethankumar.sn@in.ibm.com) and Vittal Pai (vittalpai@in.ibm.com)<\/p>\n<p>With the release of MobileFirst Platform v7.1, one can now migrate any existing iOS app built for MobileServices on Bluemix to MobileFirst Platform with just a handful of simple steps.<\/p>\n<p>To elucidate the process, lets look at how to migrate a simple Bluemix iOS app.<\/p>\n<p>To migrate an existing iOS app built for MobileServices on Bluemix to run on MobileFirst Platform, follow the steps below.<\/p>\n<ul>\n
<a href=\"#migrateexisting\">Existing Bluemix Server Application<\/a><\/li>\n
<a href=\"#migrateblu\">Existing Bluemix Client Application<\/a><\/li>\n
<a href=\"#configureclient\">Migration of Client Application<\/a><\/li>\n
<a href=\"#migratemfp\">Migration of JAX-RS Application to JAVA Adapter<\/a><\/li>\n
<a href=\"#configoauth\">Configuring Custom-OAuth<\/a><\/li>\n
<a href=\"#configurepush\">Configuring Push Capability<\/a><\/li>\n
<a href=\"#sample\">Sample and Source Code<\/a><\/li>\n<\/ul>\n<h2 id=\"migrateexisting\">Existing Bluemix Server Application<\/h2>\n<p>The Bluemix app has the following functionality:<\/p>\n<ul>\n<li>On the client side, the application stores a list of items and provides a way to add more items to the list. Each item can able to store Name, Store, Price and image of the product. The App’s are protected

by Custom Authenticator via AMA security service provided by bluemix.<\/li>\n<li>On the server side, th e App contains a JAX-RS class to store and manipulate the data. It also contains the server side AMA s ecurity implementation.<\/li>\n<\/ul>\n<p>On BlueMix we have application with the following configurati on:<\/p>\n<ul>\n<li>Liberty Runtime : which used to run JAX-RS application on Bluemix<\/li>\n<li>Adva nce Mobile Access service : which gives mobile application security and monitoring functionality<\/li>\n< li>Push Service for iOS 8 : which provides the capability to use iOS Push features<\/li>\n<\/ul>\n<h3> Li berty Runtime <\/h3>\n<ul>\n<li>Liberty contains two projects with JAX-RS service (i.e Custom-oauth-j ava for Custom Authentication and LocalstoreAdapter for storing items). The service include the protect ed resource and the custom identity provider code. The liberty server is configured with TAI.\n<\/li>\n Trust Association Interface (TAI) is a service provider API that enables the integration of third-party se curity services with a Liberty profile server. For more info on TAI : <a href=\"http:\/\/www-01.ibm.com\/su pport\/knowledgecenter\/was_beta_liberty\/com.ibm.websphere.wlp.nd.multiplatform.doc\/ae\/twlp_dev_ custom_tai.html\" target=\"_blank\">click here<\/a>\n<\/li>\n<li>The custom identity provider authenticat es a user by sending challenges to the client. However, custom identity providers do not communicate directly with clients. They send challenges and receive responses to the challenges by means of the Ad vanced Mobile Access service. When a custom identity provider successfully authenticates the user, it provides the user identity information to Advanced Mobile Access. For more information on custom auth entication refer bluemix documentation : <a href=\"https:\/\/www.ng.bluemix.net\/docs\/services\/mobilea ccess\/security\/id_provs\/index-gentopic2.html#custom_id_prov\" target=\"_blank\">click here<\/a>\n<p >The custom identity provider code is defined by two http API:<\/p>\n<pre class=\"brush: plain; title: ; no translate\">\/startAutorization<\/pre>\n<p> and\n<pre class=\"brush: plain; title: ; notranslate\">\/handleC hallengeAnswer<\/pre>\n<pre class=\"brush: java; title: ; notranslate\"> @POST\n\t@Consumes ("application\/json")\n\t@Path("\/{tenantId}\/customAuthRealm_3\/startAuthoriz ation")\n\t@Produces(MediaType.APPLICATION_JSON)\n\tpublic JSONObject startAuthoriz ation(String payload,\n\t\t\t@PathParam("tenantId") String deviceId,\n\t\t\t@PathP aram("realmName") String realmName) throws Exception {\n\t\tJSONObject returnJson = (JSONObject) JSON.parse(CHALLENGE_JSON);\n\t\treturn returnJson;\n\t}\n\t\n\t@POS T\n\t@Consumes ("application\/json")\n\t@Path("\/{tenantId}\/customAu thRealm_3\/handleChallengeAnswer")\n\t@Produces(MediaType.APPLICATION_JSON)\n\t public JSONObject handleChllengeAnswer(String payload,\n\t\t\t@PathParam("tenantId&am p;quot;) String deviceId,\n\t\t\t@PathParam("realmName") String realmName) thro ws Exception {\n\t\t\n\t\tJSONObject userStoreJson = (JSONObject) JSON.parse(USER_STORE_JSO N);\n\t\tJSONObject failedResponseJson = (JSONObject) JSON.parse(FAILURE_JSON);\n\t\t\n\t\tif(pa yload == null || payload.isEmpty()) {\n\t\t\treturn failedResponseJson;\n\t\t}\n\t\tJSONObject payloadJso n = (JSONObject) JSON.parse(payload);\n\t\tJSONObject challengeAnswer = (JSONObject) payloadJs on.get("challengeAnswer");\n\t\t\n\t\tif (challengeAnswer == null) {\n\t\t\treturn faile dResponseJson;\n\t\t}\n\t\t\n\t\tString userName = (String) challengeAnswer.get("userName& amp;quot;);\n\t\tString password = (String) challengeAnswer.get("password");\n\t\t\ n\t\tif (userName == null || userName.isEmpty() || password == null || password.isEmpty()) {\n\t\t\treturn f ailedResponseJson;\n\t\t}\n\t\t\n\t\tif (userStoreJson.containsKey(userName)) {\t\n\t\t\tJSONObject userI nfoJson = (JSONObject) userStoreJson.get(userName);\n\t\t\tString userPassword = (String) userInfoJs on.get("password");\n\t\t\tString userDisplayName = (String) userInfoJson.get(&a mp;quot;displayName");\n\t\t\t\n\t\t\tif (password.equals(userPassword)) {\n\t\t\t\tJSONObject returnJson = new JSONObject();\n\t\t\t\tJSONObject userIdentityJson = new JSONObject();\n\t\t\t\tuserI dentityJson.put("userName", userName);\n\t\t\t\tuserIdentityJson.put("di splayName", userDisplayName);\n\t\t\t\n\t\t\treturnJson.put("status", "success");\n\t\t\treturnJson.put("userIdentity", userIdentityJ son);\n\t\t\treturn returnJson;\n\t\t}\t\t\n\t}\n\t\treturn failedResponseJson;\n\t}\n<\/pre>\n<p>Th e Localstore adapter contains few http API’s to perform some basic operations like Add, Up date, Create and Delete in client application.<\/p>\n<pre class=\"brush: java; title: ; notranslate\"> @GE T\n\t@Path("\/getAllItems")\n\tpublic String getAllItems() throws IOException{\n\t\ti nit();\n\t\tJsonArray jsonArray = new JsonArray();\n\t\tfor(Object key : props.keySet()){\n\t\t\tjsonArray.ad d(parser.parse(props.getProperty((String) key)).getAsJsonObject());\n\t\t}\n\t\treturn jsonArray.toString() ;\n\t}\n\n@PUT\n\t@Path("\/addItem")\n\tpublic void addItem(String itemJson) \n\ t\t\tthrows IOException, URISyntaxException{\n\t\ttry{\n\t\t\tinit();\n\t\t\tint newKey = props.keySet().size( )+1;\n\t\t\tprops.put(String.valueOf(newKey), itemJson);\n\t\t\tURL url = this.getClass().getClassLoader() .getResource("data.properties"); \n\t\t\tFile file = new File(url.toURI().getPath());\n\t

\t\tFileOutputStream foStream = new FileOutputStream(file);\n\t\t\tprops.store(foStream, "saving new item");\n\t\t\tfoStream.close();\n\n\t\t}catch(IOException ioe){\n\t\t\tioe.printStackTrace();\n\t\t}\n\n\t}\n\n\t@POST\n\t@Path("/addAllItems")\n\tpublic String addAllItems(String itemsJson) \n\t\t\tthrows URISyntaxException, IOException{\n\t\ttry{\n\t\t\tinit();\n\t\t\tclearAllData();\n\t\t\tJsonArray jsonArr = parser.parse(itemsJson).getAsJsonArray();\n\t\t\tfor(int i=0;i<jsonArr.size();i++){\n\t\t\t\tprops.put(String.valueOf(i+1), jsonArr.get(i).toString());\n\t\t\t}\n\t\t\tURL url = this.getClass().getClassLoader().getResource("data.properties"); \n\t\t\tFile file = new File(url.toURI().getPath());\n\t\t\tFileOutputStream foStream = new FileOutputStream(file);\n\t\t\tprops.store(foStream, "saving new item");\n\t\t\tfoStream.close();\n\t\t\treturn "true";\n\t\t}catch(IOException ioe){\n\t\t\tioe.printStackTrace();\n\t\t}\n\t\treturn "false";\n\t}\n\n\t@DELETE\n\t@Path("/clearAll")\n\tpublic String clearAllData() \n\t\t\tthrows MissingConfigurationOptionException, URISyntaxException, IOException{\n\t\t\tinit();\n\t\t\tprops.clear();\n\t\t\tSystem.out.println("Size : "+props.size());\n\t\t\tURL url = this.getClass().getClassLoader().getResource("data.properties"); \n\t\t\tFile file = new File(url.toURI().getPath());\n\t\t\tFileOutputStream foStream = new FileOutputStream(file);\n\t\t\tprops.store(foStream, "clearing all data");\n\t\t\tfoStream.close();\n\t\t\treturn "cleared";\n\t}\n</pre>\n
\n Add TAI Extension in the following path of server directory server\/usr\/extensions
\nTAI Extension Link : Download the extension.zip from here\n
\n Add TAI Security constraint in web.xml file for both the projects.\n<pre class=\"brush: xml; title: ; notranslate\"><security-constraint>\n \t<web-resource-collection>\n \t <web-resource-name>LocalstoreApplication<\/web-resource-name>\n \t <url-pattern>\/apps\/*<\/url-pattern>\n \t<\/web-resource-collection>\n \t<auth-constraint>\n <role-name>TAIUserRole<\/role-name>\n \t<\/auth-constraint>\n<\/security-constraint>\n<security-role id="SecurityRole_TAIUserRole" >\n <role-name>TAIUserRole<\/role-name>\n<\/security-role><\/pre>\n
\n Add OAuthTai feature in server.xml\n<pre class=\"brush: plain; title: ; notranslate\"><feature>usr:OAuthTai-1.0<\/feature><\/pre>\n
\n Protect the Url’s using TAI by adding following code in server.xml\n<pre class=\"brush: xml; title: ; notranslate\"> <usr_OAuthTAI id="myOAuthTAI" realmName="imfRealm">\n\t\t<securityConstraint httpMethods="GET, POST" securedURLs="\/LocalstoreAdapter\/*"\/>\n\t\t<securityConstraint httpMethods="GET, POST" securedURLs="\/custom-oauth-java\/*"\/>\n\t<\/usr_OAuthTAI> \n\n <webApplication id="custom-oauth-java" location="custom-oauth-java.war" name="custom-oauth-java">\n <application-bnd>\n\t\t<security-role name="TAIUserRole">\n\t\t\t<special-subject type="ALL_AUTHENTICATED_USERS"\/>\n\t\t<\/security-role>\n\t<\/application-bnd> \n\t<\/webApplication> \n\t <webApplication id="LocalstoreAdapter" location="LocalstoreAdapter.war" name="LocalstoreAdapter">\n <application-bnd>\n\t\t<security-role name="TAIUserRole">\n\t\t\t<special-subject type="ALL_AUTHENTICATED_USERS"\/>\n\t\t<\/security-role>\n\t<\/application-bnd> \n\t<\/webApplication><\/pre>\n
\n Specify the IMF Auth Url inside Server.env file in liberty.\n<pre class=\"brush: xml; title: ; notranslate\">imfServiceUrl=https:\/\/imf-authserver.ng.bluemix.net\/imf-authserver<\/pre>\n
\n Create a server package which contains above two applications using following command.\n<pre class=\"brush: plain; title: ; notranslate\">.\/server package ${server_name} --include=usr<\/pre>\n
\n Push the newly created server package to bluemix using following command.\n<pre class=\"brush: plain; title: ; notranslate\">cf push ${app_name} -p ${path_to_server_package_zip}<\/pre>\n
\n
\n<h3>Advance Mobile Access service</h3>\n
\n Bind the pushed application to Advance Mobile Access Service.\n<p><a href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/32\/2015\/07\/Screen-Shot-2015-07-17-at-3.28.04-pm.png\"><\/a>\n
\n Register your client application in AMA dashboard. For more info refer documentation : <

a href=\"https:\/\/www.ng.bluemix.net\/docs\/services\/mobileaccess\/index.html\" target=\"_blank\">click here<\/a>\n<p><a href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/32\/2015\/07\/Screen-Shot-2015-07-17-at-3.42.32-pm.png\"><\/a>\n<\/li>\n AMA provides Facebook, Google, or a custom identity provider to authenticate access to protected resources. Add Custom identity provider feature as it can be migrated to MFPF and specify the corresponding jax-rs custom authentication application url and realm name.<br \/>\n<a href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/32\/2015\/07\/Screen-Shot-2015-07-17-at-4.03.21-pm.png\"><\/a>\n<\/li>\n Add the following code inside didFinishLaunchingWithOptions function in AppDelegate of client application which will register the realm and initialize connection with Bluemix Application.\n<pre class=\"brush: plain; title: ; notranslate\"> IMFClient.sharedInstance().registerAuthenticationDelegate(customAuthDelegate, forRealm: "customAuthRealm_3")\nIMFClient.sharedInstance().initializeWithBackendRoute("https:\/\/parkstore.mybluemix.net", backendGUID: "5e3ad88d-dd48-469d-b46f-2c4ad66b5345")<\/pre>\n<\/li>\n The following is the sample code to invoke the Rest url’s in client application.\n<pre class=\"brush: plain; title: ; notranslate\">var request: IMFResourceRequest = IMFResourceRequest(path: "https:\/\/parkstore.mybluemix.net\/LocalstoreAdapter\/apps\/5e3ad88d-dd48-469d-b46f-2c4ad66b5345\/localstore\/getAllItems", method: "GET")\n request.sendWithCompletionHandler { (wlResponse:IMFResponse!, err:NSError!) -> Void in<\/pre>\n<\/li>\n<\/ul>\n<h3>Push Service for iOS 8<\/h3>\n<ul>\n Bind the application with Push Service for iOS 8<br \/>\n<a href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/32\/2015\/07\/Screen-Shot-2015-07-17-at-4.07.01-pm.png\"><\/a>\n<\/li>\n Configure Apple Push Notification service (APNs) which requires Apple Developer Account and Generate pl2 certificates. Documentation link : <a href=\"https:\/\/www.ng.bluemix.net\/docs\/services\/mobilepush\/index.html#certificates\" target=\"_blank\">click here<\/a>\n<\/li>\n Upload the generated pl2 certificate in Push service dashboard\n<p><a href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/32\/2015\/07\/Screen-Shot-2015-07-12-at-6.47.14-pm.png\"><\/a>\n<\/li>\n<li>Add the following code inside didFinishLaunchingWithOptions function in AppDelegate of client application which will register notifications in client app.\n<pre class=\"brush: plain; title: ; notranslate\"> let notificationTypes: UIUserNotificationType = UIUserNotificationType.Badge | UIUserNotificationType.Alert | UIUserNotificationType.Sound\n let notificationSettings: UIUserNotificationSettings = UIUserNotificationSettings(forTypes: notificationTypes, categories: nil)\n \n application.registerUserNotificationSettings(notificationSettings)\n application.registerForRemoteNotifications()<\/pre>\n<\/li>\n<li>Add the following code inside didRegisterForRemoteNotificationsWithDeviceToken function in AppDelegate of client application which will register pushclient and subscribe to tag in client app.\n<pre class=\"brush: plain; title: ; notranslate\">IMFPushClient.sharedInstance().registerDeviceToken(deviceToken, completionHandler: { (response, error) -> Void in\n if error != nil {\n println("Error during device registration \\(error.description)")\n }\n else {\n println("Response during device registration json: \\(response.responseJson.description)")\n var tags = ["parkstore"]\n IMFPushClient.sharedInstance().subscribeToTags(tags, completionHandler: { (response:IMFResponse!, err:NSError!) -> Void in\n if err != nil {\n println("There was an error while subscribing to tag")\n }else{\n println("Successfully subscribe to tag parkstore")\n }\n })\n }<\/pre>\n<\/li>\n<li>Add the following function inside Appdelegate which triggers when push notification arrived in client app.\n<pre class=\"brush: plain; title: ; notranslate\">func application(application: UIApplication, didReceiveRemoteNotification userInfo: [NSObject : AnyObject]) {\n println("Got remote Notification. Data : \\(userInfo.description)")\n let info = userInfo as NSDictionary\n let data = info.objectForKey("aps")?.objectForKey("alert") as! N

data = info.objectForKey("aps")?.objectForKey("alert") as! N
SDictionary\n let userData = data.objectForKey("body") as! String\n let al
ertView = UIAlertView(title: "WishList!", message: "\\
(userData)", delegate: nil, cancelButtonTitle: "OK")\n alertView.sho
w()\n }\n}<\/pre>\n<\/li>\n<\/ul>\n<h2 id=\"migrateblu\">Existing Bluemix Client Application<\/h2>\n<
p>Add the following Code snippets to the existing Bluemix Client Application and name the application
with same name which you have registered in Advance Mobile Access Dashboard.<\/p>\n<ul>\n Ad
d the following code inside didFinishLaunchingWithOptions function in AppDelegate of client application
which will register the realm and initialize connection with Bluemix Application.\n<pre class=\"brush: plai
n; title: ; notranslate\"> IMFClient.sharedInstance().registerAuthenticationDelegate(customAuthDelegate
, forRealm: "customAuthRealm_3")\nIMFClient.sharedInstance().initializeWithBac
kendRoute("https:\/\/parkstore.mybluemix.net", backendGUID: "5e3ad8
8d-dd48-469d-b46f-2c4ad66b5345")<\/pre>\n<\/li>\n The following is the sample code to i
nvoke the Rest url’s in client application.\n<pre class=\"brush: plain; title: ; notranslate\">va
r request: IMFResourceRequest = IMFResourceRequest(path: "https:\/\/parkstore.mybluemix
.net\/LocalstoreAdapter\/apps\/5e3ad88d-dd48-469d-b46f-2c4ad66b5345\/localstore\/getAllItems&
quot;, method: "GET")\n request.sendWithCompletionHandler { (wlResponse:
IMFResponse!, err:NSError!) -> Void in<\/pre>\n<\/li>\n<li>Add the following code inside didFini
shLaunchingWithOptions function in AppDelegate of client application which will register notifications in
client app.\n<pre class=\"brush: plain; title: ; notranslate\"> let notificationTypes: UIUserNotificationTyp
e = UIUserNotificationType.Badge | UIUserNotificationType.Alert | UIUserNotificationType.Sound\n
let notificationSettings: UIUserNotificationSettings = UIUserNotificationSettings(forTypes: notificationTy
pes, categories: nil)\n \n application.registerUserNotificationSettings(notificationSettings)\n
application.registerForRemoteNotifications()<\/pre>\n<\/li>\n<li>Add the following code inside didRegist
erForRemoteNotificationsWithDeviceToken function in AppDelegate of client application which will regi
ster pushclient and subscribe to tag in client app.\n<pre class=\"brush: plain; title: ; notranslate\">IMFPu
shClient.sharedInstance().registerDeviceToken(deviceToken, completionHandler: { (response, error) -&
amp;gt; Void in\n if error != nil {\n println("Error during device registration \\
(error.description)")\n }\n else {\n println("Response duri
ng device registration json: \\(response.responseJson.description)")\n var tags = [
"parkstore"]\n IMFPushClient.sharedInstance().subscribeToTags(tags,
completionHandler: { (response:IMFResponse!, err:NSError!) -> Void in\n if err !=
nil {\n println("There was an error while subscribing to tag")\n
}else{\n println("Successfully subscribe to tag parkstore")\n
}\n })\n }<\/pre>\n<\/li>\n<li>Add the following function inside Appdelegate which trigg
ers when push notification arrived in client app.\n<pre class=\"brush: plain; title: ; notranslate\">func app
lication(application: UIApplication, didReceiveRemoteNotification userInfo: [NSObject : AnyObject]) {\n
println("Got remote Notification. Data : \\(userInfo.description)")\n let info = us
erInfo as NSDictionary\n let data = info.objectForKey("aps")?.objectForKey(&
amp;quot;alert") as! NSDictionary\n let userData = data.objectForKey("body&
amp;quot;) as! String\n let alertView = UIAlertView(title: "WishList!", message
: "\\(userData)", delegate: nil, cancelButtonTitle: "OK")\n
alertView.show()\n }\n}<\/pre>\n<\/li>\n<li>The following are the screenshots of client application.<br
\/>\n<a href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/32\/2015\/07\/
IMG_0020.jpg\"><img src=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/
32\/2015\/07\/IMG_0020-169x300.jpg\" alt=\"IMG_0020\" width=\"169\" height=\"300\" class=\"alignnone
size-medium wp-image-14917\" \/><\/a><a href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-c
ontent\/uploads\/sites\/32\/2015\/07\/IMG_00211.jpg\"><img src=\"https:\/\/developer.ibm.com\/mobilefir
stplatform\/wp-content\/uploads\/sites\/32\/2015\/07\/IMG_00211-169x300.jpg\" alt=\"IMG_0021\" width=
\"169\" height=\"300\" class=\"alignnone size-medium wp-image-14918\" \/><\/a><a href=\"https:\/\/devel
oper.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/32\/2015\/07\/IMG_0025.jpg\"><img src=\
"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/32\/2015\/07\/IMG_0025-1
69x300.jpg\" alt=\"IMG_0025\" width=\"169\" height=\"300\" class=\"alignnone size-medium wp-image-1
4920\" \/><\/a><a href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/32\
/2015\/07\/IMG_0024.jpg\"><img src=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uplo
ads\/sites\/32\/2015\/07\/IMG_0024-169x300.jpg\" alt=\"IMG_0024\" width=\"169\" height=\"300\" class=\
"alignnone size-medium wp-image-14919\" \/><\/a><a href=\"https:\/\/developer.ibm.com\/mobilefirstplat

form\/wp-content\/uploads\/sites\/32\/2015\/07\/IMG_0026.jpg\"><\/a>\n<\/li>\n<\/ul>\n<h2>Migration to On-Prem<\/h2>\n<h3 id=\"configureclient\">Migration of Client Application<\/h3>\n<p>Migration of Client Application includes following two steps<\/p>\n<li>Configuring Cocoapods<\/li>\n<li>Client App Migration<\/li>\n<h3 id=\"cocoapods\">Configuring Cocoapods<\/h3>\n<p>If CocoaPods has not been installed on a specific computer:<\/p>\n<ul>\n<li>Follow the “Getting Started” guide for CocoaPods installation: http:\/\/guides.cocoapods.org\/using\/getting-started.html<\/li>\n<li>Open “Terminal” at the installation location and run the “pod init” command<\/li>\n<\/ul>\n<p>The following steps assume that the client application is working with CocoPods. If not, follow this “Using CocoaPods” documentation : <a href=\"http:\/\/guides.cocoapods.org\/using\/using-cocoapods.html\" target=\"_blank\">click here<\/a><\/p>\n<p>In both cases, the instructions below explain how to edit the “Podfile” file.<\/p>\n<ol>\n<li>Open the “Podfile” file located in the root of your XCode project in a favourite text editor.<\/li>\n<li>Comment out or remove the existing content.<\/li>\n<li>Add the following lines:\n<pre class=\"brush: plain; title: ; notranslate\">source 'https:\/\/github.rtp.raleigh.ibm.com\/imflocalsdks\/imf-client-sdk-specs.git'\npod 'IMFCompatibility'<\/pre>\n<\/li>\n<li>Open “Terminal” at the location of “Podfile”.<\/li>\n<li>Verify that the XCode project is closed.<\/li>\n<li>Run the “pod install” command.<\/li>\n<\/ol>\n<p>Open the [MyProject].xcworkspace file in XCode. This file is located side by side with [MyProject].xcodeproj.<br \/>\nAn usual CocoaPods-based project is managed as a workspace containing the application (the executable) and the library (all project dependencies brought by the CocoaPods manager).<\/p>\n<p>In Xcode’s Build Settings, search for “Other Linker Flags” and insert ${inherited} (if -ObjC is defined in this field, you can just delete it, since it is configured in the CocoaPod project).<\/p>\n<h3>Client App Migration<\/h3>\n<ol>\n<li>Search for bluemix dependency imports like\n<pre class=\"brush: plain; title: ; notranslate\">#import <IMFCore\/IMFCore.h>\n#import <IMFPush\/IMFPush.h><\/pre>\n<p>Replace the above imports with <\/p>\n<pre class=\"brush: plain; title: ; notranslate\">#import <IMFCompatibility\/IMFCompatibility.h><\/pre>\n<\/li>\n<li>Look for a call to the “initializeWithBackendRoute” method and replace the route URL with your on-premise server URL. For example:\n<pre class=\"brush: plain; title: ; notranslate\">IMFClient.sharedInstance().initializeWithBackendRoute("https:\/\/parkstore.mybluemix.net", backendGUID: "5e3ad88d-dd48-469d-b46f-2c4ad66b5345"<\/pre>\n<p>should be replaced with your on-premise MFP server URL<\/p>\n<pre class=\"brush: plain; title: ; notranslate\">IMFClient.sharedInstance().initializeWithBackendRoute("http:\/\/localhost:10080\/ParkStoreMFP", backendGUID: "5e3ad88d-dd48-469d-b46f-2c4ad66b5345"<\/pre>\n<p>Note, that backendGUID parameter is ignored and can be empty. Look for all instantiations of IMFResourceRequest class and update it<\/li>\n<li>Look for all instantiations of IMFResourceRequest class and update the request URL with absolute or relative path to the resource. For example:\n<pre class=\"brush: plain; title: ; notranslate\">var request: IMFResourceRequest = IMFResourceRequest(path: "https:\/\/parkstore.mybluemix.net\/LocalstoreAdapter\/apps\/5e3ad88d-dd48-469d-b46f-2c4ad66b5345\/localstore\/getAllItems", method: "GET")<\/pre>\n<p>should be replaced with<\/p>\n<pre class=\"brush: plain; title: ; notranslate\">var request: IMFResourceRequest = IMFResourceRequest(path: "http:\/\/localhost:10080\/ParkStoreMFP\/adapters\/LocalstoreAdapter\/localstore\/getAllItems", method: "GET")<\/pre>\n<\/li>\n<\/li>\n<li>Add the following code inside didRegisterForRemoteNotificationsWithDeviceToken function in Appdelegate of Client application.\n<pre class=\"brush: plain; title: ; notranslate\"> WLPush.sharedInstance().tokenFromClient = deviceToken.description<\/pre>\n<\/li>\n<li>All on-premise applications require the “worklight.plist” file to be present in the application resources. In the <code>IBMMobileFirstPlatformFoundationNativeSDK<\/code> pod we supply a file named sample.worklight.plist<\/strong>.\n<ul>\n<li>Locate the “sample.worklight.plist” file in the â€˜IBMMobileFirstPlatformFoundationNativeSDKâ€™ pod.<\/li>\n<li>Copy this file to the parent (application) project and rename it to “worklight.plist”.<\/li>\n<li>Edit the “worklight.plist” file by setting the “application id” key to the name of your application deployed to the on-premise MFPF server<\/li>\n<\/ul>\n<\/li>\n<\/ol>\n<h3 id=\"migratemfp\">Migration of JAX-RS Application to JAVA Adapter<\/h3>\n<ol>\n<li>To migrate JAX-RS application to on-prem (MobileFirst Foundation) server we need to do the following steps for server:\n<p> Create MobileFirst Project –> Create native API

app for iOS<br \/>\n â€‹â€‹<br \/>\n<a href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/32\/2015\/07\/Screen-Shot-2015-07-12-at-6.50.04-pm.png\"><\/a><\/p>\n<p><a href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/32\/2015\/07\/Screen-Shot-2015-07-12-at-6.51.13-pm.png\"><\/a><\/p>\n<p><a href=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/32\/2015\/07\/Screen-Shot-2015-07-12-at-6.52.28-pm.png\"><\/a><\/li>\n<li>Add two adapters for Custom Authentication and Localstore and migrate the JAX-RS code as shown in the following example.<\/li>\n<\/ol>\n<p>Copy the JAX-RS BlueMix code and paste it in the newly created Localstore Java adapter JAX-RS file.<\/p>\n<p>Add and remove the following changes in your adapter code.<\/p>\n<ul>\n remove <code>\/{tenantId}\/<\/code><\/li>\n remove the <code>@PathParam-> PathParam(\"tenantId\") String deviceId<\/code> and <code>@PathParam(\"realmName\") String realmName<\/code><\/li>\n Add scope to the all http api resource <code>@OAuthSecurity (scope=\"customAuthRealm_3\")<\/code><\/li>\n<\/ul>\n<p>The code looks like the following<\/p>\n<pre class=\"brush: plain; title: ; notranslate\">\n\t@GET\n\t@OAuthSecurity (scope="customAuthRealm_3")\n\t@Path("\/getAllItems")\n\tpublic String getAllItems() throws MissingConfigurationOptionException{\n\t\tinit();\n\t\tJsonArray jsonArray = new JsonArray();\n\t\tfor(Object key : props.keySet()){\n\t\t\tjsonArray.add(parser.parse(props.getProperty((String) key)).getAsJsonObject());\n\t\t}\n\t\treturn jsonArray.toString();\n\t}\n\n\t@PUT\n\t@OAuthSecurity (scope="customAuthRealm_3")\n\t@Path("\/addItem")\n\tpublic void addItem(String itemJson) \n\t\t\tthrows MissingConfigurationOptionException, URISyntaxException, IOException{\n\t\ttry{\n\t\t\tinit();\n\t\t\tint newKey = props.keySet().size()+1;\n\t\t\tprops.put(String.valueOf(newKey), itemJson);\n\t\t\tURL url = this.getClass().getClassLoader().getResource("data.properties"); \n\t\t\tFile file = new File(url.toURI().getPath());\n\t\t\tFileOutputStream foStream = new FileOutputStream(file);\n\t\t\tprops.store(foStream, "saving new item");\n\t\t\tfoStream.close();\n\n\t}catch(IOException ioe){\n\t\tioe.printStackTrace();\n\t}\n\n\t@POST\n\t@OAuthSecurity (scope="customAuthRealm_3")\n\t@Path("\/addAllItems")\n\tpublic String addAllItems(String itemsJson) \n\t\t\tthrows MissingConfigurationOptionException, URISyntaxException, IOException{\n\t\ttry{\n\t\t\tinit();\n\t\t\tclearAllData();\n\t\t\tJsonArray jsonArr = parser.parse(itemsJson).getAsJsonArray();\n\t\tfor(int i=0;i<jsonArr.size();i++){\n\t\t\tprops.put(String.valueOf(i+1), jsonArr.get(i).toString());\n\t\t}\n\t\tURL url = this.getClass().getClassLoader().getResource("data.properties"); \n\t\tFile file = new File(url.toURI().getPath());\n\t\tFileOutputStream foStream = new FileOutputStream(file);\n\t\tprops.store(foStream, "saving new item");\n\t\tfoStream.close();\n\t\treturn "true";\n\t}catch(IOException ioe){\n\t\tioe.printStackTrace();\n\t}\n\treturn "false";\n\t}\n\n\t@DELETE\n\t@OAuthSecurity(enabled=false)\n\t@Path("\/clearAll")\n\tpublic String clearAllData() \n\t\t\tthrows MissingConfigurationOptionException, URISyntaxException, IOException{\n\t\tinit();\n\t\tprops.clear();\n\t\tSystem.out.println("Size : "+props.size());\n\t\tURL url = this.getClass().getClassLoader().getResource("data.properties"); \n\t\tFile file = new File(url.toURI().getPath());\n\t\tFileOutputStream foStream = new FileOutputStream(file);\n\t\tprops.store(foStream, "clearing all data");\n\t\tfoStream.close();\n\t\treturn "cleared";\n\t}\n<\/pre>\n<h3 id=\"configoauth\">Configuring Custom-OAuth<\/h3>\n<ul>\n<li>Add realm with same name you had on BlueMix and login module to the authenticationConfig.xml.\n<pre class=\"brush: xml; title: ; notranslate\"><realm name="customAuthRealm_3" loginModule="customAuthLoginModule_3">\n<className>com.worklight.core.auth.ext.CustomIdentityAuthenticator<\/className>\t\n<parameter name="providerUrl" value="http:\/\/localhost:10080\/ParkStoreMFP\/adapters\/Customauth"\/>\n<\/realm>\n\n<loginModule name="customAuthLoginModule_3" expirationInSeconds="3600">\n<className>com.worklight.core.auth.ext.CustomIdentityLoginModule<\/className>\n<\/logi

nModule><\/pre>\n<\/li>\n<li>Add Custom-oauth Realm in userIdentityRealms in Application De
scriptor file of iOS Native API\n<pre class=\"brush: xml; title: ; notranslate\"><userIdentityRealms
>customAuthRealm_3<\/userIdentityRealms><\/pre>\n<\/li>\n<\/ul>\n<h3 id=\"con
figurepush\">Configuring Push Capability<\/h3>\n<ul>\n Add apns p12 certificate which is generated
from Apple Developer Account under iOS Native API Folder\n<p><a href=\"https:\/\/developer.ibm.com\
/mobilefirstplatform\/wp-content\/uploads\/sites\/32\/2015\/07\/Screen-Shot-2015-07-12-at-6.58.03-pm.p
ng\"><img src=\"https:\/\/developer.ibm.com\/mobilefirstplatform\/wp-content\/uploads\/sites\/32\/2015\/0
7\/Screen-Shot-2015-07-12-at-6.58.03-pm.png\" alt=\"Screen Shot 2015-07-12 at 6.58.03 pm\" width=\"
286\" height=\"171\" class=\"alignnone size-full wp-image-14820\" \/><\/a>\n<\/li>\n Add Push config
uration in Application Descriptor file of iOS Native API and include the password of added apns certifica
te.\n<pre class=\"brush: xml; title: ; notranslate\"><pushSender password="password&
amp;quot;\/>\n<tags>\n <tag>\n <name>parkstor
e<\/name>\n <\/tag>\n<\/tags><\/pre>\n<\/li>\n Create
HTTP Push Adapter with following function code which will send the user push notification to the device
s which is subscribed to tag “parkstore”.\n<pre class=\"brush: xml; title: ; notra
nslate\">function sendTagNotification(notificationText) {\n var notificationOptions = {};\n notification
Options.message = {};\n notificationOptions.target = {};\n\n notificationOptions.message.alert = notif
icationText;\n notificationOptions.target.tagNames = ["parkstore"];\n\n WL.Ser
ver.sendMessage("ParkStoreMFP", notificationOptions);\n\n return {\n resu
lt : "Notification sent to users subscribed to the tag parkstore."\n };\n}<\/pre>\n<\/l
i>\n<\/ul>\n<p>By performing above steps one can easily run iOS app built for Bluemix on MobileFirst P
latform and following are the links to samples.<\/p>\n<h3 id=\"sample\">Sample and Source Code<\/h3
>\n<p>Bluemix Server : <a href=\"https:\/\/hub.jazz.net\/git\/chethan\/parkstore-bluemix-server\">Parkst
ore bluemix server<\/a><br \/>\nBluemix Client : <a href=\"https:\/\/hub.jazz.net\/git\/chethan\/parkstore-
bluemix\">Parkstore bluemix<\/a><br \/>\nMFP Server : <a href=\"https:\/\/hub.jazz.net\/git\/chethan\/
parkstore-mfp-server\">Parkstore mfp server<\/a><br \/>\nMFP Client : <a href=\"https:\/\/hub.jazz.ne
t\/git\/chethan\/parkstore-mfp\">Parkstore mfp<\/a><\/p>\n<p>The post <a rel=\"nofollow\" href=\"https:\/
\/developer.ibm.com\/mobilefirstplatform\/2015\/08\/19\/try-on-bluemix-and-buy-mfp\/\">Try on Bluemix
and migrate to on-prem MobileFirst Platform<\/a> appeared first on <a rel=\"nofollow\" href=\"https:\/\/de
veloper.ibm.com\/mobilefirstplatform\/\">IBM MobileFirst Platform<\/a>.<\/p>",
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}

```
}
```

Sample

The attached sample (https://github.com/MobileFirst-Platform-Developer-Center/JavaAdapters/tree/release71) includes an adapter called `RSSAdapter` and a hybrid application called `RSSReader` to test the adapter inside an application.