Trust Association Interceptor

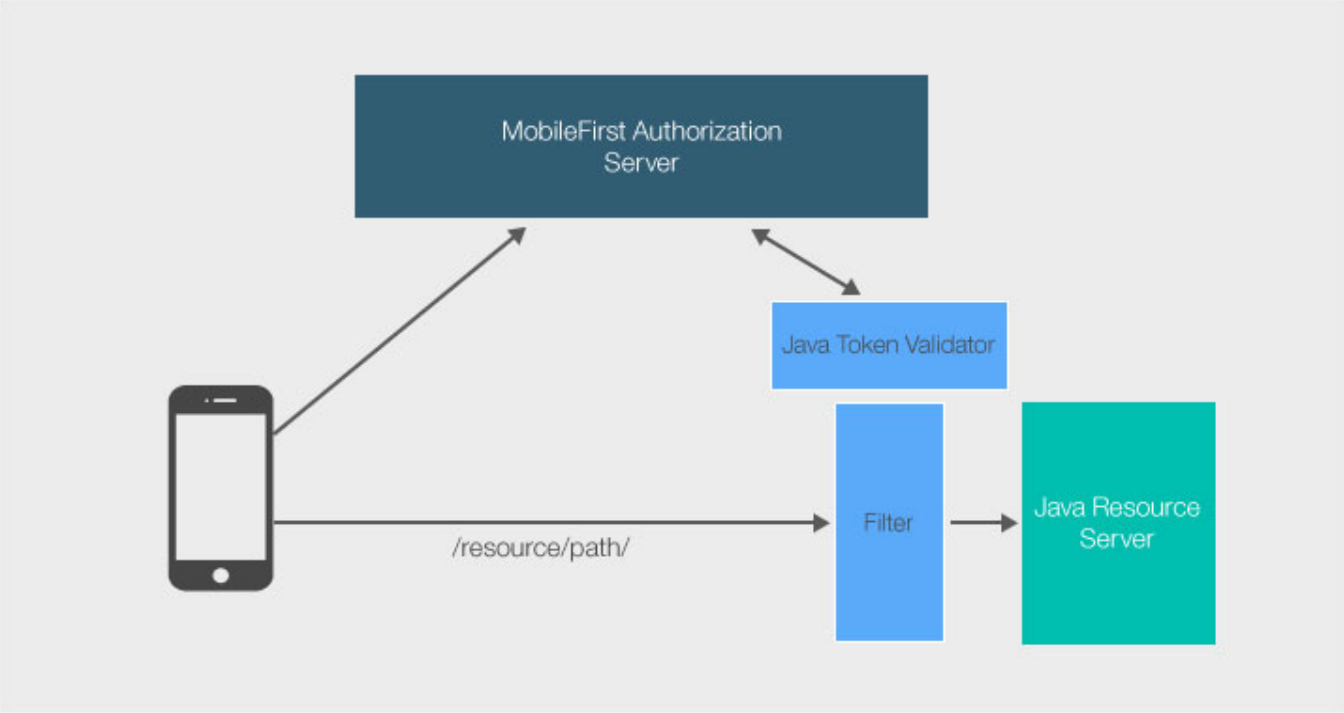
Overview

MobileFirst Platform Foundation provides a Java library to facilitate the authentication of external resources through IBM WebSphere's Trust Association Interceptors (https://www.ibm.com/support/knowledgecenter/SSHRKX_8.5.0/mp/security/sec_ws_tai.dita).
The Java library is provided as a .jar file (**com.ibm.mfp.oauth.tai-8.0.0.jar**).

This tutorial will show how to protect a simple Java Servlet, `api/protected`, using a scope (`accessRestricted`).

Prerequesite:

- Make sure to read the Using the MobileFirst Server to authenticate external resources (../) tutorial.
- Understanding of the MobileFirst Platform Foundation security framework (../../).



Server setup

1. Obtain the Java library from Maven Central.
   If Internet connectivity is not available while developing, prepare to work offline:
   1. Make sure you have first installed Apache Maven.
   2. Download the MobileFirst Platform Foundation Development Kit Installer (file:////home/travis/build/MFPSamples/DevCenter/_site/downloads/).
   3. Start the MobileFirst Server and load the MobileFirst Operations Console.
   4. Click on **Get Starter Code → Tools tab** and download & extract the **mfp-maven-central-artifacts-filter.zip** file from the Adapter tooling section.
   5. Add the filters to the local Maven repository by running the **install.sh** script for Linux and Mac, or the **install.bat** script for Windows.
2. Add the `com.ibm.mfp.oauth.tai-8.0.0.jar` file to the WebSphere application server inside

usr/extension/lib.

3. Add the `OAuthTai-8.0.mf` file to the WebSphere applicaiton server inside **usr/extension/lib/features**.

web.xml setup

Add a security constraint and a security role to the `web.xml` file of the WebSphere application server:

```
<security-constraint>
  <web-resource-collection>
    <web-resource-name>RESTServlet</web-resource-name>
    <url-pattern>/api/protected</url-pattern>
  </web-resource-collection>
  <auth-constraint>
    <role-name>TAIUserRole</role-name>
  </auth-constraint>
</security-constraint>

<security-role id="SecurityRole_TAIUserRole"; >
  <description>This is the role that MFP OAuthTAI uses to protect the resource, and it is required to be m
apped to 'All Authenticated in Application' in WAS and 'ALL_AUTHENTICATED_USERS' in Liberty</descr
iption>
  <role-name>TAIUserRole</role-name>
</security-role>
```

server.xml

Modify the WebSphere application server's `server.xml` file to your external resource.

- Configure the feature manager to include the following features:

  ```
  <featureManager>
      <feature>jsp-2.2</feature>
      <feature>appSecurity-2.0</feature>
      <feature>usr:OAuthTai-8.0</feature>
      <feature>servlet-3.0</feature>
      <feature>jndi-1.0</feature>
  </featureManager>
  ```

- Add a security role:

  ```
  <application id="REST-Server" location="REST-Server.war" name="REST-Server">
    <application-bnd>
      <security-role name="TAIUserRole">
        <special-subject type="ALL_AUTHENTICATED_USERS"/>
      </security-role>
    </application-bnd>
  </application>
  ```

- Configure OAuthTAI. this is where URLs are set to be protected:

```
<usr_OAuthTAI id="myOAuthTAI" authorizationURL="http://localhost:9080/mfp/api" clientId="Exter
nalResource" clientSecret="password" cacheSize="500">
    <securityConstraint httpMethods="GET POST" scope="accessRestricted" securedURLs="/R
EST-Server/api/protected"></securityConstraint>
</usr_OAuthTAI>
```

- **authorizationURL**: Either your MobileFirst Server (`http(s):/your-hostname:port/runtime-name/api`), or an external AZ Server such as IBM DataPower.
- **clientID**: The Resource server must be a registered confidential client, to learn how to register a confidential client read the Confidential Clients (../../confidential-clients/) tutorial.
- **clientSecret**: The Resource server must be a registered confidential client, to learn how to register a confidential client
- **cacheSize (optional)**: TAI uses the Java-Token-Validator cache to cache tokens and introspection data data as values so that a token that comes in the request from the client won't need to be introspected again in a short time interval.

The default size is 50,000 tokens.

If the you want to guarantee that the tokens are introspected on each request you should set cache to 0. - **scope**: The resource server authenticates against scope(s). A scope could be a security check or a scope element mapped to security checks.

Sample

You can deploy the project on supported application servers (WebSphere Full profile and WebSphere Liberty profile).
Download the simple Java servlet (https://github.com/MobileFirst-Platform-Developer-Center/TrustAssociationInterceptor/tree/release80).

Sample usage

1. Make sure to update the confidential client (../#confidential-client) and secret values in the MobileFirst Operations Console.
2. Deploy either of the security checks: **UserLogin (../../user-authentication/security-check/)** or **PinCodeAttempts (../../credentials-validation/security-check/)**.
3. Register the matching application.
4. Map the `accessRestricted` scope to the security check.
5. Update the client application to make the `WLResourceRequest` to your servlet URL.
6. Set the scope of your securityConstraint scope to be the security check that your client needs to authenticate against.