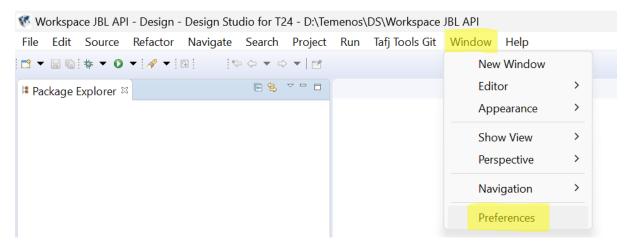
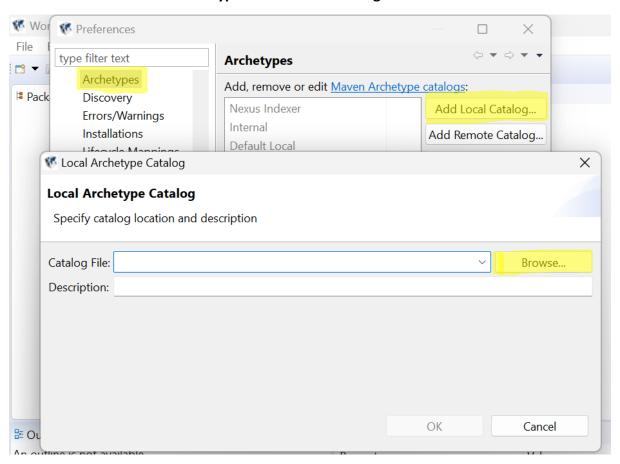
IRIS API

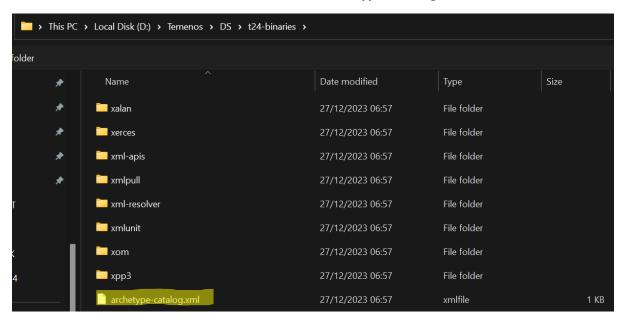
Adding Archetype in Design Studio:

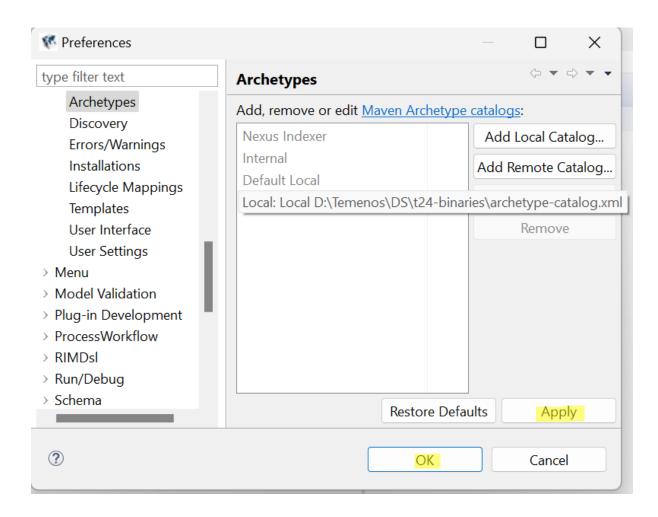


Window > Preferences > Archetypes > Add Local Catalog

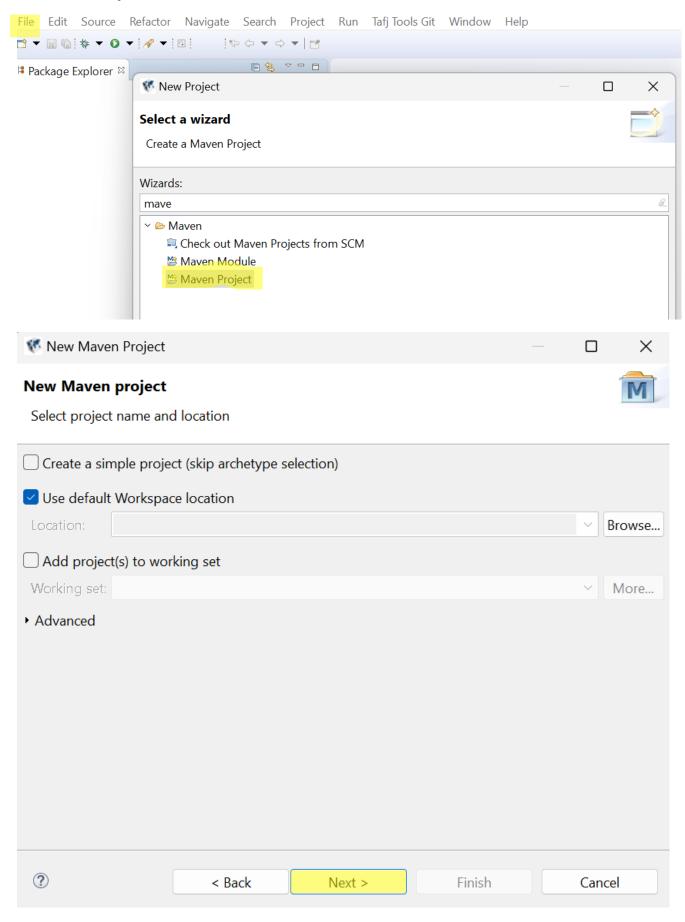


T24-binaries > D:\Temenos\DS\t24-binaries -- archetype-catalog.xml

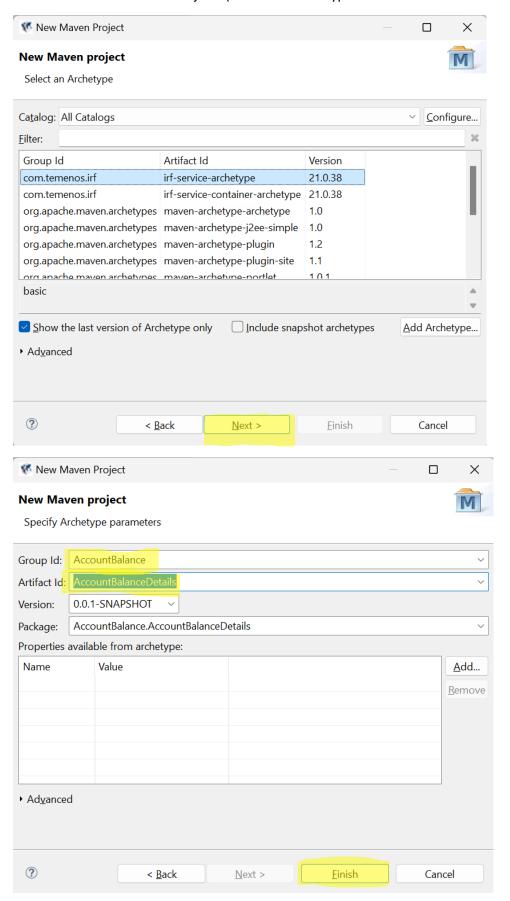


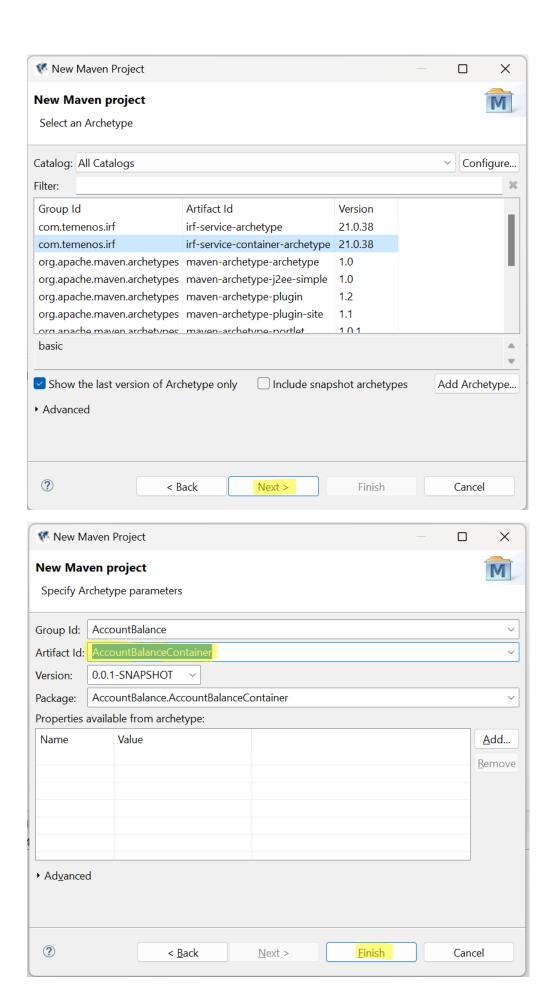


New Mavel Project from DS:



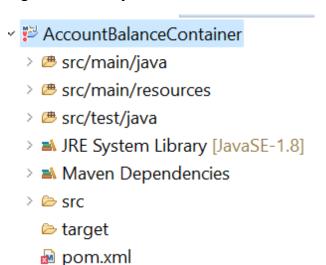
There must be two Maven Projects (irf-service-archetype & irf-service-container -archetype)

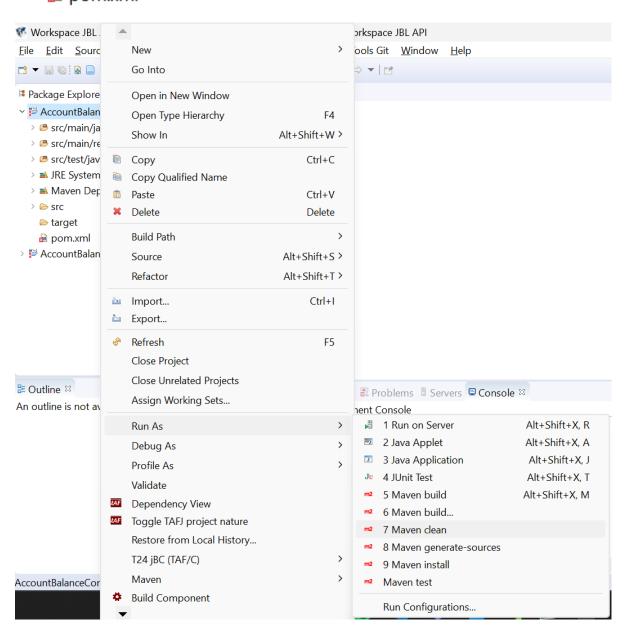


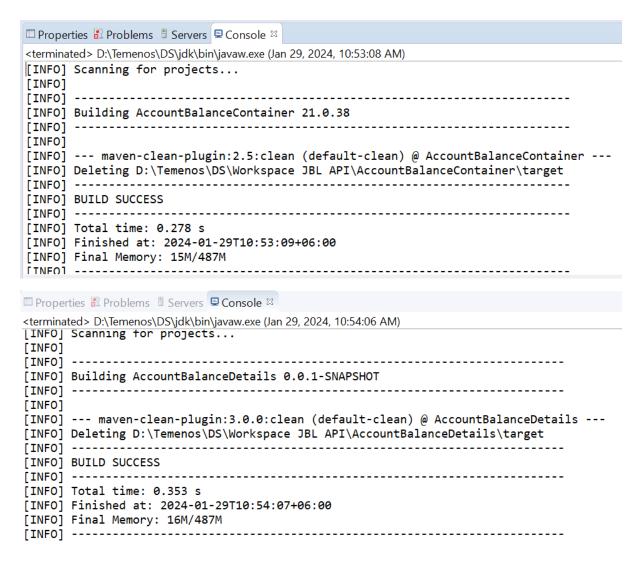


Clean the both container and Service project by Selecting,

Right click on Project → Run As → Maven Clean.





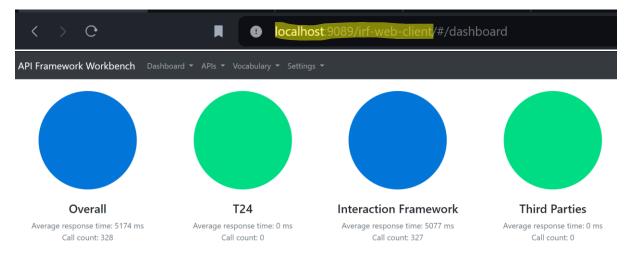


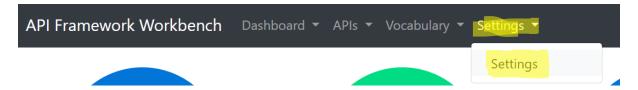
IRIS 2.0 war File Generation

Deploy the 2 war files which is given by temenos in your JBoss **irf-web-client - Workbench**

irf-test-web - To test the IRIS Services

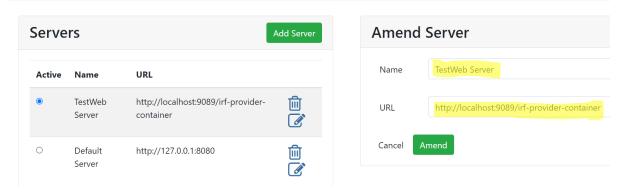
Give the base URL in the browser-> Workbench gets opened...





Select settings tab \rightarrow click settings \rightarrow Then the servers page gets opened.

Servers



API Creation from Workbench

API Creation:

First We should create a Version or Enquiry in below format. **Product.API.verb.version** -----EX: ST.API.CUSTOMERS.1.0.0

go to localhost:9089/irf-web-client Click API>create provider API.

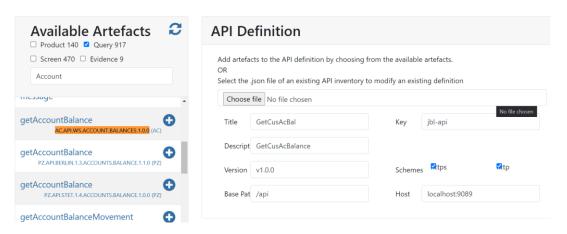


The Available Artefacts can be displayed. The Artefacts can be Versions(Screen), Enquiries(Query), AA Product(Product) and so on.

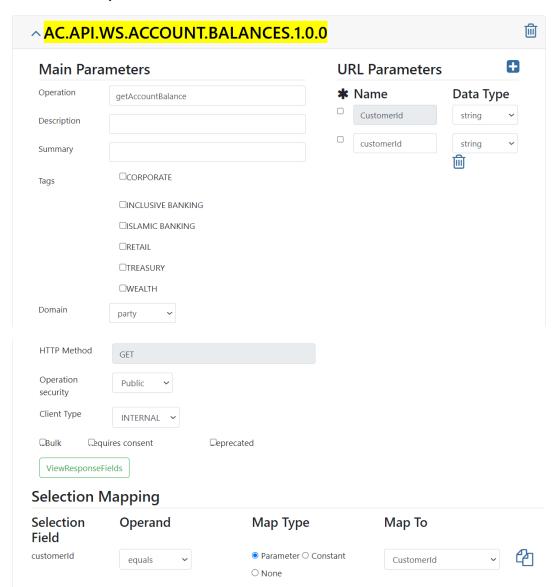
Select the data's which you want to import.

The API definition page will be displayed.

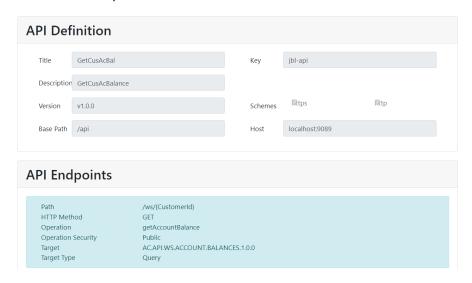
Select the required artefacts from available artefacts.



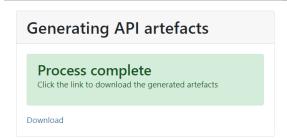
Provide key , url, summary, description. (give request and response payload versions If it is AA API)



click **NEXT** on top of the screen>**FINISH**



2. Review 3. Download

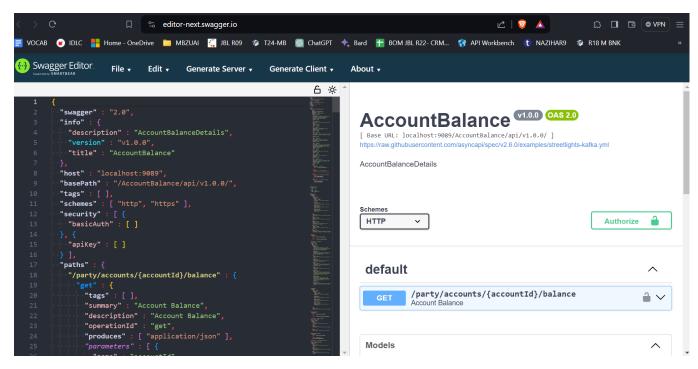


IRIS Workbench will generate a zip based on selected transact artefacts. Download it. That zip contains 3 folders. **i.e. api-docs, inventory, services**

After creating a Maven project (AccountBalanceDetails),



api-docs – This folder contains swagger which will show the specification of our API **Ex**:



Inventory – This folder contains details of the generated artefacts/APIs. Which is useful to load existing APIs to the workbench rather than selecting artefacts from scratch.

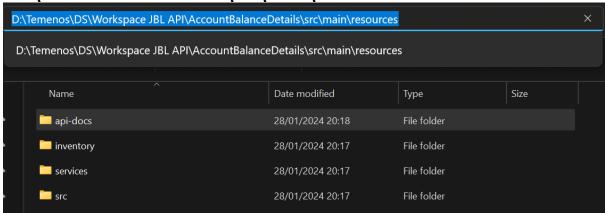
Services- This folder contains the xml routes for routing the API to appropriate transact artefact.

This file alone is fine to deploy in a container to get our API work.

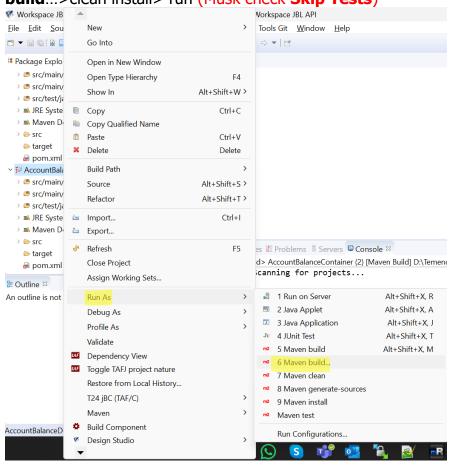
Paste the **Downloaded** files from the **Workbench** in the Below path,

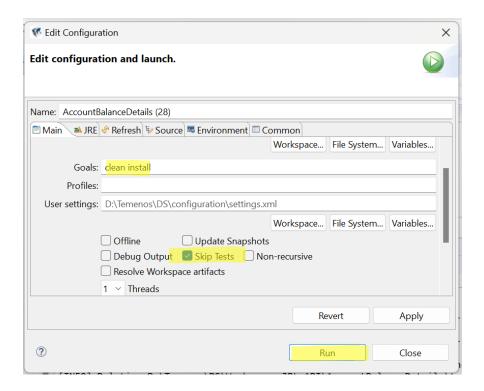
D:\Temenos\DS\Workspace JBL

API\AccountBalanceDetails\src\main\resources



Right click on the main project(AccountBalanceDetails)>Run as> Maven build...>clean install> run (Musk check Skip Tests)





Πz

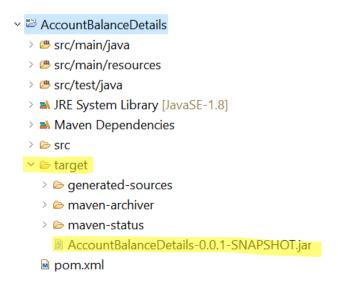
If the BUILD is FAILED then need to download the .jar json-20170516,jar file and paste it inside the **t24 binaries** directory like this,

D:\Temenos\DS\t24-binaries\org\json\json\20170516

archetype-catalog.xm

We also need to replace each <a href="https://

If the **BUILD** is **SUCCESSFUL** then the **jar** file will be created here.



Go to the **container** project >pom.xml

Go to **dependencies** tab and add your jars (created in main project)

Go to **pom.xml** tab

buildforJMS > true ; Not Required/Optional for Model Bank.

```
Project Explorer 

□

    AccountBalanceDetails/pom.xml  
    AccountBalanceContainer/pom.xml 
    □ AccountBalanceContainer/pom.xml 

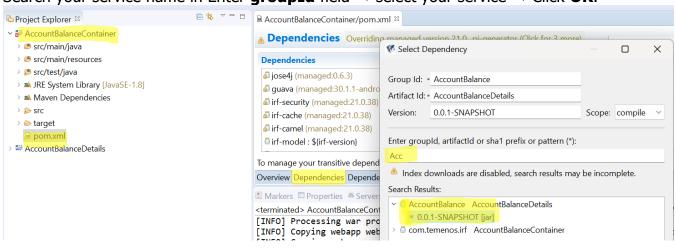
<maven.compiler.source>1.8</maven.compiler.source>
  > 🕭 src/main/java
                                                          <maven.compiler.target>1.8</maven.compiler.target>
  > # src/main/resources
                                                      </properties>
                                                      ofiles>
  > 🥭 src/test/java
                                                          file>
  → March JRE System Library [JavaSE-1.8]
                                                              <id>buildForJMS</id>
  > Maven Dependencies
                                                               <activation>
  > 🔑 src
                                                                   <activeByDefault>true</activeByDefault>
                                                               </activation>
  > 🗁 target
                                                               <build>
   🚇 pom.xml
                                                                   <finalName>irisR18</finalName>
<plugins>
  > 🛎 src/main/java
                                                                        <plugin>
                                                                            <artifactId>maven-resources-plugin</artifactId>
  > @ src/main/resources
  > 🛎 src/test/java
                                                                            <version>${maven.resources.plugin}</version>
                                                                            <executions>
  > ■ JRE System Library [JavaSE-1.8]
                                                                                 <execution>
  > Maven Dependencies
                                                                                     <id>copywebresource</id>
  > 🗁 src
  > 🗁 target
                                              Overview Dependencies Dependency Hierarchy Effective POM pom.xml

    Markers □ Properties  Servers □ Snippets □ Problems □ □ Console
```

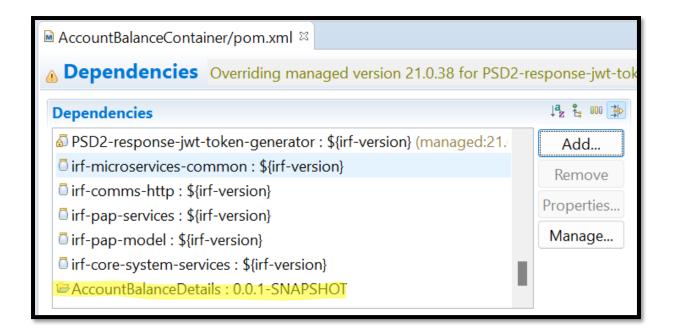
Adding Dependencies:

Special Note: We must build the main project first then the container project. Double click on pom.xml \rightarrow select Dependencies tab \rightarrow click Add.

The **container** will have the main project **jar file** as a Dependency. Search your service name in Enter **groupId** field \rightarrow select your service \rightarrow Click **OK**.



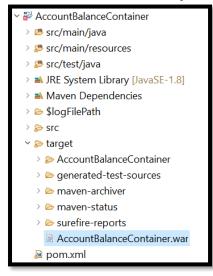
Then **Save** it. \rightarrow Ctrl +S



If the jboss is a remote server then, Provide the jboss environment: username and password. Java.naming.security.principal = username Java.naming.security.credentials = Password

```
terminated> AccountBalanceContainer (9) [Maven Build] D:\Temenos\DS\jdk\bin\javaw.exe (Jan 29, 2024, 4:23:27 PM)
[INFO] Processing war project
[INFO] Copying webapp webResources [D:\Temenos\DS\Workspace JBL API\AccountBalanceContainer\src/main/webapp/jbossenabled/
[INFO] Copying webapp resources [D:\Temenos\DS\Workspace JBL API\AccountBalanceContainer\src\main\webapp]
[INFO] Webapp assembled in [786 msecs]
[INFO] Building war: D:\Temenos\DS\Workspace JBL API\AccountBalanceContainer\target\AccountBalanceContainer.war
[INFO]
[INFO] --- maven-install-plugin:2.4:install (default-install) @ AccountBalanceContainer ---
[INFO] Installing D:\Temenos\DS\Workspace JBL API\AccountBalanceContainer\target\AccountBalanceContainer.war to D:\Temeno
[INFO] Installing D:\Temenos\DS\Workspace JBL API\AccountBalanceContainer\pom.xml to D:\Temenos\DS\t24-binaries\com\temen
[INFO] -
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 25.663 s
[INFO] Finished at: 2024-01-29T16:23:54+06:00
[INFO] Final Memory: 79M/661M
```

D:\Temenos\DS\Workspace JBL API\AccountBalanceContainer\target



To Enable/disable xacml:

Comment out below line to disable xacml. (OR) **Uncomment** to enable xacml.



To Enable/disable JWT:

Comment out below set of lines to disable JWT (OR) **UnComment** below set of lines to enable JWT.

```
E S → E  applicationContext.xml  web.xml 🗵

War AccountBalanceContainer

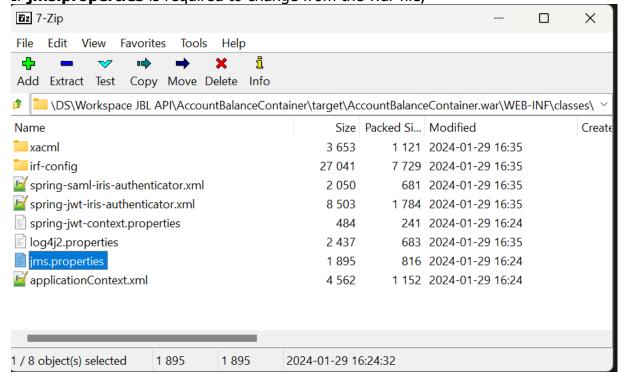
Output

Description: AccountBalance
                                                                                                                                                                         <!-- Uncomment below filters to enable JWT based token validation
            src/main/java
                                                                                                                                                                           <filter>
     <filter>
     <filter-name>springSecurityFilterChain</filter-name>
     <filter-class>org.springframework.web.filter.DelegatingFilterProxy</filter-class>
        > 🥬 src/main/resources
        > # src/test/iava
        > ■ JRE System Library [JavaSE-1.8]
         > Maven Dependencies
                                                                                                                                                                                      <filter-mapping>
         > 🗀 $logFilePath
                                                                                                                                                                                                        <filter-name>springSecurityFilterChain</filter-name>
                                                                                                                                                                                      <url-pattern>/*</url-pattern
</filter-mapping> -->
               > 🗁 java
                                                                                                                                                                e <!--
<filter
                       > 🔑 resources
                              > > iboss53remote
                                                                                                                                                           Design Source
                             > 🔑 jboss6remote
                                                                                                                                                           🖺 Markers 🗏 Properties 🦓 Servers 🖺 Snippets 🖺 Problems 💂 Console 🖾 J Ulnit
                             > 📂 ibossenabled
                                                                                                                                                           terminated> AccountBalanceContainer (10) [Maven Build] D\Temenos\DS\jdk\bin\javaw.exe (Jan 29, 2024, 4:35:21 PM)
[INFO] Packaging webapp
[INFO] Assembling webapp [AccountBalanceContainer] in [D:\Temenos\DS\Workspace JBL API\AccountBalanceContainer]
[INFO] Copying webapp webResources [D:\Temenos\DS\Workspace JBL API\AccountBalanceContainer\:
[INFO] Copying webapp resources [D:\Temenos\DS\Workspace JBL API\AccountBalanceContainer\r:
[INFO] Webapp assembled in [756 msecs]
                              > > microservices
                                             jboss-deployment-structure.xml

∨ № test

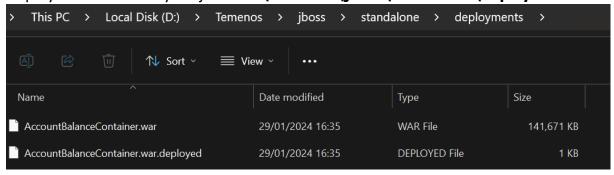
                        🗸 📂 java
                                                                                                                                                             [INFO] Building war: D:\Temenos\DS\Workspace JBL API\AccountBalanceContainer\target\AccountBa
```

If **jms.properties** is required to change from the war file,



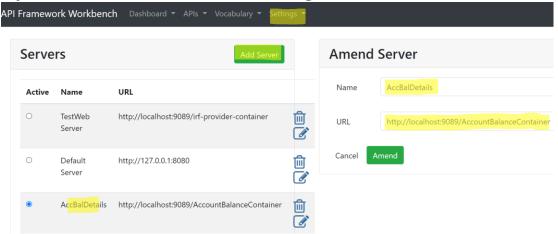
Deployment:

Deploy the .war file in your jboss. **D:\Temenos\jboss\standalone\deployments**

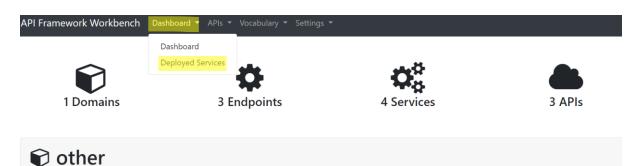


Adding server to view the API:

Open workbench → click on Settings tab → click Add Server button.

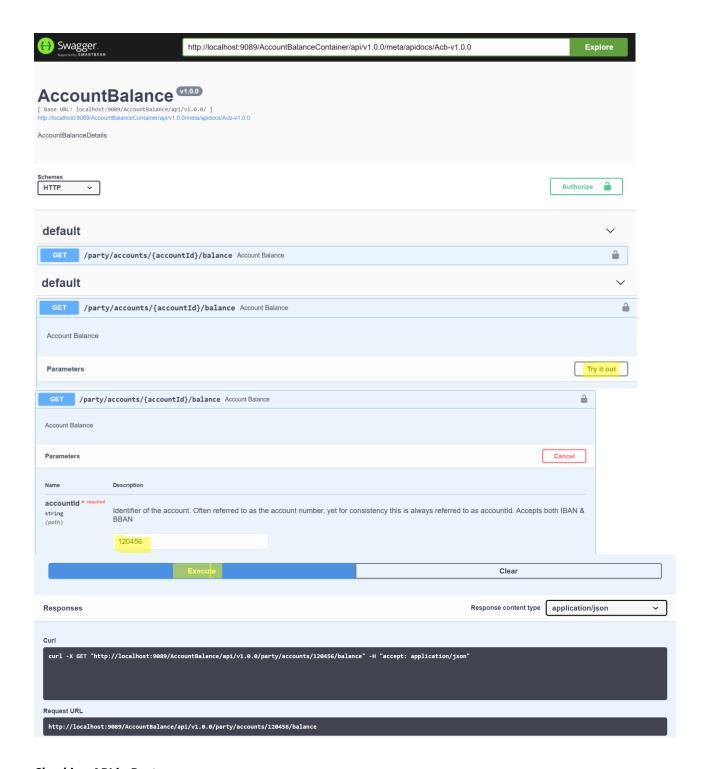


Checking the Deployed Services



CLICK - API docs





Checking API in Postman:

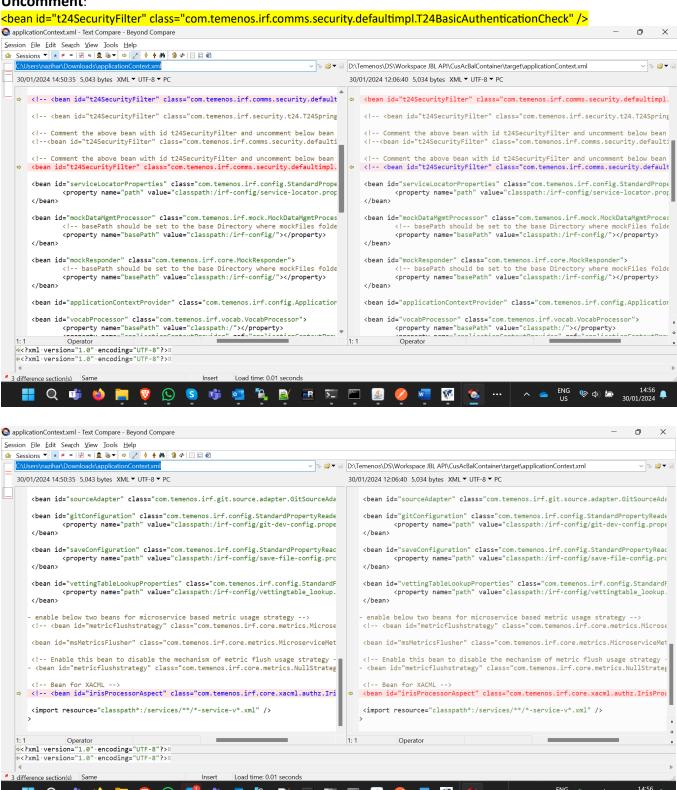
Run postman → click '+' button → paste your API link and add War filename in the link. Click Send → Response will be shown.



If authentication(Basic Auth) error is found then **applicationContext.xml file** need to be changed. **Commend out** these lines:

<!-- <bean id="t24SecurityFilter" class="com.temenos.irf.comms.security.defaultimpl.NullBean" /> --> <!-- <bean id="irisProcessorAspect" class="com.temenos.irf.core.xacml.authz.lrisProcessorXacmlAspect" /> -->

Uncomment:



After changing and replacing the file in the war file it works!

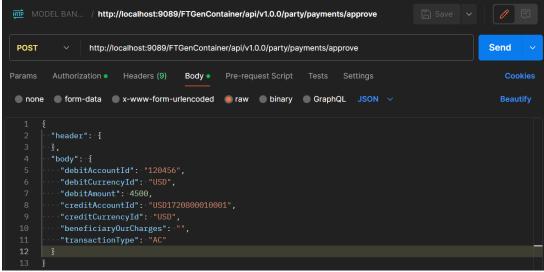
```
GET http://localhost:9089/C •
 http://localhost:9089/CusAcBalContainer/api/v1.0.0/party/ws/800155
                                                                                               🖺 Save 🗸
  GET
                  http://localhost:9089/CusAcBalContainer/api/v1.0.0/party/ws/800155
                                                                                                               Send
                          Headers (8)
    Postman-Token
                                          (3) <calculated when request is sent>
Body Cookies Headers (9) Test Results
  Pretty
            "header": {
                "audit": {
                    "T24_time": 12045,
                    "responseParse_time": 1,
                    "requestParse_time": 271
                "page_start": 1,
                "page_token": "202104152599054588.01,99",
                "total_size": 4,
                "status": "success"
             "accountId": "117258",
             "clearedBalance": 9986222.5,
             "displayName": "MD SHIBLI MOLLAH",
             "workingBalance": 9186222.5,
             "categoryId": "Current Account",
             "availableBalance": 9186222.5
             "accountId": "120448",
                     "clearedBalance": 44993682.15,
                     "displayName": "MD SHIBLI MOLLAH",
                     "workingBalance": 44993682.15,
                     "availableBalance": 44993682.15
                     "accountId": "120456",
                     "clearedBalance": 999212.5,
                     "displayName": "SHIBLI SAVINGS",
                     "workingBalance": 999212.5,
                     "workingBalance": 999212.5,
                     "onlineActualBalance": 999212.5,
                     "currencyId": "USD",
"categoryId": "Staff Account",
                     "availableBalance": 999212.5
                     "accountId": "120464",
                     "clearedBalance": 998962.5,
                     "displayName": "MD SHIBLI",
                     "workingBalance": 998962.5,
```

```
Response:
  "header": {
    "audit": {
      "T24 time": 12045,
      "responseParse time": 1,
      "requestParse_time": 271
    },
    "page_start": 1,
    "page_token": "202104152599054588.01,99",
    "total size": 4,
    "page size": 99,
    "status": "success"
 },
  "body": [
    {
      "accountId": "117258",
      "clearedBalance": 9986222.5,
      "displayName": "MD SHIBLI MOLLAH",
      "workingBalance": 9186222.5,
      "onlineActualBalance": 9986222.5,
      "currencyId": "USD",
      "categoryId": "Current Account",
      "availableBalance": 9186222.5
    },
      "accountId": "120448",
      "clearedBalance": 44993682.15,
      "displayName": "MD SHIBLI MOLLAH",
      "workingBalance": 44993682.15,
      "onlineActualBalance": 44993682.15,
      "currencyId": "USD",
      "categoryId": "Current Account",
      "availableBalance": 44993682.15
    },
      "accountId": "120456",
      "clearedBalance": 999212.5,
      "displayName": "SHIBLI SAVINGS",
      "workingBalance": 999212.5,
      "onlineActualBalance": 999212.5,
      "currencyId": "USD",
      "categoryId": "Staff Account",
      "availableBalance": 999212.5
    },
      "accountId": "120464",
      "clearedBalance": 998962.5,
      "displayName": "MD SHIBLI",
      "workingBalance": 998962.5,
      "onlineActualBalance": 998962.5,
      "currencyId": "USD",
      "categoryId": "Savings Acct",
      "availableBalance": 998962.5
    }
 ]
```

}

VERSION - POST

Api creation and war file creation is almost same as the process for ENQUIRY. POST request format:



Body:

```
"header": {
},

"body": {
    "debitAccountId": "120456",
    "debitCurrencyId": "USD",
    "debitAmount": 4500,
    "creditAccountId": "USD1720800010001",
    "creditCurrencyId": "USD",
    "beneficiaryOurCharges": "",
    "transactionType": "AC"
}
```

Response:

```
| Pretty | Raw | Preview | Visualize | JSON | SON | Preview | Prev
```

```
"audit": {
       "T24_time": 8209,
       "responseParse_time": 4,
       "requestParse_time": 2,
       "versionNumber": "1"
   "id": "FT21105RT0MY",
   "status": "success"
"body": {
   "debitCurrencyId": "USD",
   "processingDate": "2021-04-15",
     "debitAmount": 4500,
```

Orchestration

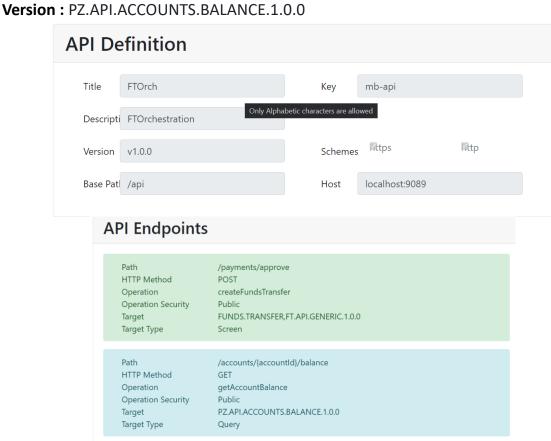
Question: Creating orchestration for FT and Account

Requirement: After Authorization of FT(version), The enquiry which shows the debit Account Id's Available balance

Step 1:

Choose the artefacts in the workbench and generate the zip file.

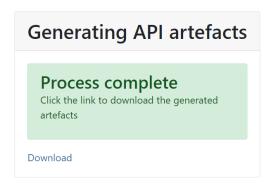
Enquiry: FUNDS.TRANSFER,FT.API.GENERIC.1.0.0



Inventory

```
{
  "paths": [
     "method": "POST",
     "url": "/party/payments/approve",
     "function": "input",
     "tags": [],
     "operationId": "createFundsTransfer",
     "operationSecurity": "Public",
     "resources": [
          "key": "FUNDS.TRANSFER, FT.API.GENERIC.1.0.0",
          "resourceType": "Screen",
          "consentManaged": false
       }
     ],
     "properties": {
       "clientType": "INTERNAL",
       "isBulk": false,
       "deprecated": false
     }
   },
     "method": "GET",
     "url": "/party/accounts/{accountId}/balance",
     "tags": [],
     "operationId": "getAccountBalance",
     "operationSecurity": "Public",
     "resources": [
       {
          "key": "PZ.API.ACCOUNTS.BALANCE.1.0.0",
          "resourceType": "Query",
          "consentManaged": false,
          "selections": [
            {
              "field": "ACCOUNTREFERENCE",
              "param": "accountId",
              "operand": "EQ",
"required": "",
              "type": "string"
          ]
       }
     "properties": {
   "clientType": "INTERNAL",
       "isBulk": false,
       "deprecated": false
   }
 "version": "v1.0.0",
 "title": "FTOrch",
```

```
"description": "FTOrchestration",
  "key": "mb-api",
  "schemes": [
      "http",
      "https"
],
  "basepath": "/api",
  "host": "localhost:9089"
}
```



Step 2:

Extract the zip file and place it in the new service project. src -> main -> resources

Step 3:

Open the service xml file in the project.

```
∨ 👺 FtEnqGen
             > 🛎 src/main/java
          ⇒ api-docs
                       > 🗁 inventory
                      services

→ Party-accounts

                                                 > party-accounts_mock_v1.0.0
                                                         party-accounts-mb-api-service-v1.0.0.xml
                                                         party-accounts-mb-api-service-v1.0.xml
                                                         party-accounts-mb-api-service-v1.xml

→ Party-payments

→ Party
                                                 > > party-payments_mock_v1.0.0
                                                          ☑ party-payments-mb-api-service-v1.0.0.xml
                                                            party-payments-mb-api-service-v1.0.xml

■ party-payments-mb-api-service-v1.xml
```

Step 4:

Open the **xml file** and write the below code under the **t24 VERSION** processor line in the xml file.

Above xml file is for **VERSION**. Here I am passing debitAccountId field to the **ENQUIRY** as selection field.

Open the ENQUIRY xml file:

Here we are Mapping the **debitAccountId** to the selection field. (Here we passing **headerName** which is written in the version xml file)

Edit this line: <constant>ACCOUNTREFERENCE EQ {debitAccountId}</constant>

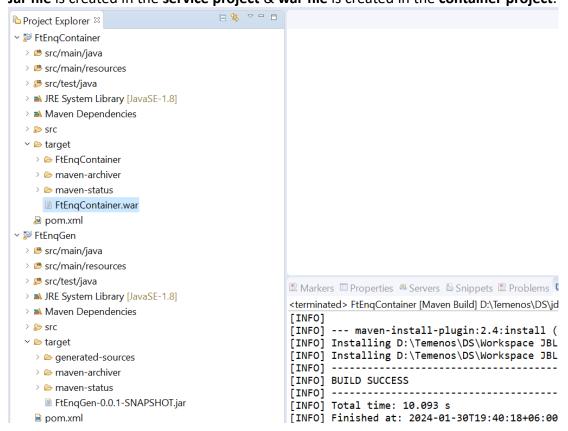
```
■ party-accounts-mb-api-service-v1.0.0.xml 
■ party-payments-mb-api-service-v1.0.0.xml

          <from uri="direct-vm:party-accounts.v1.0.0.getAccountBalance"/>
<setProperty propertyName="operationSecurity">
                <constant>Public</constant>
           </setProperty>
⊗ ⊖
           <setProperty propertyName="isBulk">
                <constant>false</constant>
           </setProperty>
           <setProperty propertyName="target">
② ⊖
                <constant>PZ.API.ACCOUNTS.BALANCE.1.0.0</constant>
           </setProperty>
            <setProperty propertyName="selection1">
               <constant>ACCOUNTREFERENCE EQ {debitAccountId}</constant>
</setProperty>
           cprocess ref="t24EnquiryProcessor"/>
       </route>
       <route id="direct.mockResponder">
            <from uri="direct:mockResponder"/>
           cprocess ref="mockResponder"/>
       </route>
   </camelContext>
   </beans>
```

Step 5:

Right click on both project and Container RunAs-> Maven clean & Install.

Jar file is created in the service project & war file is created in the container project.



Step 6:

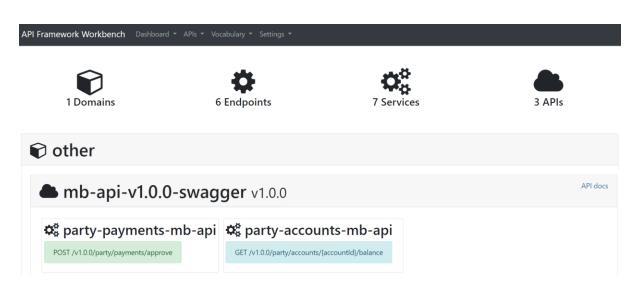
Deploy the war file in JBoss. Add the server in the workbench.



FtEnqContainer

http://localhost:9089/FtEnqContainer





http://localhost:9089/FtEnqContainer/api/v1.0.0/party/payments/approve

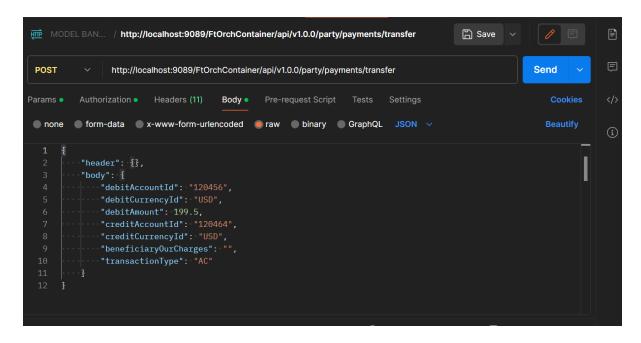
Special Note: If Authorization issue occurs then we need to update the service xml



LATESTparty-payments-orc-api-service-v1.0.0.xml

```
<setProperty propertyName="validate_only">
      <header>true</header>
    </setProperty>
               <setProperty propertyName="userDetails">
      <header>Authorization</header>
    </setProperty>
               <setProperty propertyName="function">
      <constant>validate</constant>
    </setProperty>
    cess ref="t24VersionProcessor"/>
    <choice>
           <simple>${headers.CamelHttpResponseCode} == 200</simple>
           <setHeader headerName="accountId">
               <camel:jsonpath suppressExceptions="true">$.body.debitAccountId</camel:jsonpath>
            </setHeader>
            <setHeader headerName="Authorization">
              <camel:exchangeProperty>userDetails</camel:exchangeProperty>
           <to uri="direct-vm:party-accounts.v1.0.0.getAcBalance" />
         </when>
      </choice>
     </route>
```

Step 7: Check it in POSTMAN



Response: