

Application of Microservice Architecture on B2B Processes

(IBM Watson Customer Engagement)

by

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Introduction

The International Business Machines Corporation (IBM) is an American multinational technology company headquartered in Armonk, New York, United States, with operations in over 170 countries. IBM manufactures and markets computer hardware, middleware and software, and provides hosting and consulting services in areas ranging from mainframe computers to nanotechnology.

IBM aims to bring Businesses closer and smarter than ever with the help of their state of the art enterprise software product called B2B Sterling Integrator. IBM B2B Integrator helps companies integrate complex B2B (Business to Business) / EDI (Electronic Data Exchange) processes with their partner communities. IBM aims to transform the B2B Sterling product into Microservice architecture.

Brief Overview

After deploying the sample war file, I have to deploy the B2BiAPIs war file on the Sterling Integrator. So, to deploy it I have created B2BiAPIs Uri in Http Server Adapter and provided the path of it. Then I run few commands to install it and run it on the sterling integrator.

Introduced in B2Bi 526

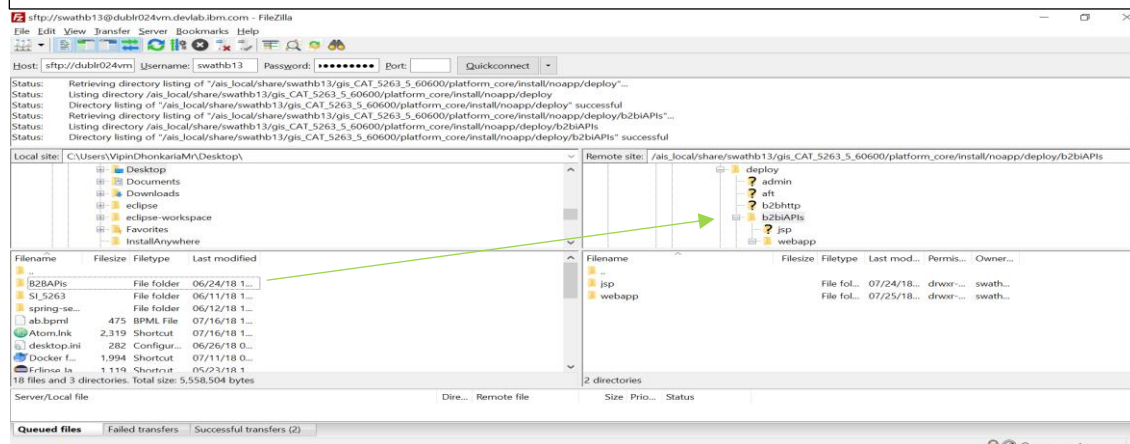
- Allow user to programmatically Create, Read, Update and Delete resources in B2Bi.
- JSON and XML supported as input and output formats.
- Provide support for Partner Engagement Manager PEM.
- More efficient mechanism for on boarding trading partners compared to Xapi.

Report on the Present Investigation

(Progress during this 15-days period)

B2B Sterling Integrator works based on the Business processes. These business processes are used to automate the operation of the services in the business environment. There is a basic set of base services which form the core of the SI product. These services are written in Java and are prepackaged altogether in a WAR archive format. To execute and test these services, the B2Bi war file is to be deployed on the SI server. So to deploy the B2BiAPIs, following steps are taken.

Step 1: Connect to the B2Bi-SI server using filezilla and copy the WAR package.



The screenshot shows the Sterling B2B Integrator web application. The top navigation bar includes 'Admin Console', 'Operations', and 'Advanced File Transfer'. The 'Services Configuration' page is displayed, with a left-hand 'Administration Menu' containing various system components. The 'Http Server Adapter: URI: URI Config' section is active, showing a 'Launch BP Or WAR' configuration. The 'War File' radio button is selected, and the 'URI' field contains the text 'B2BAPIs'. The 'Steps' section on the right shows a sequence of steps: Name, HTTP Connection, Processing Configuration, URI, and URI Config, with 'URI Config' currently selected.

B2BiAPI URI is created in Http Server Adapter

← → ↻ dubl024vm.devlab.ibm.com:60600/dashboard/ ☆

Apps New Tab Java

Administration Menu

- Business Processes
- Trading Partner
- Document
- Services
 - Installation/Setup
 - Schedules
 - Maps
 - Standards
 - Extended Rule Libraries
 - XSLL
 - Web Extensions
 - Schemas
 - Mailboxes
 - Global Mailbox
 - EDXML
 - Resource Manager
 - Adapter Utilities
 - SSH Host Identity Key
 - Web Services
- Archiving
- EBICS
- Operations
- Accounts
- Standards Processing Engine

Services Configuration

Http Server Adapter: URI

URI	Name	Edit	Delete
New URI			
/as2			
/B2BAPIs			
/b2bhttp/certificate/report			
/b2bhttp/inbound/as2			
/B2BAPIs			
DataStore_MsgPrep_Send			
OS_Frontend_Import_BP			
/from/peoplesoft			
/from/peoplesoft/test			
hello			
hello-war			
/peoplesoft/sim			
/peoplesoft/simtest			
/schema			
/SOMU_webApp			
test			
/testWebApp			
/webx/bp/FileUpload			
/webx/bp/PurchaseOrderMenu			
/webx/bp/PurchaseOrderQuery			
/webx/bp/PurchaseOrderSend			
/webx/bp/PurchaseOrderXforms			
/webx/bp/WebSuiteArchiveDoc			
/webx/bp/WebSuiteASINSend			
/webx/bp/WebSuiteDeleteDoc			

Help
Add, edit, or delete URIs for handling the data.

Steps

- HTTP Connection
- Properties
- Configuration
- URI**
- Content

dubl024vm.devlab.ibm.com:60600/ws/UpdateGlobalService?wizType=SiteService&wizObjType=38&WizardAction=Next&uriaction=add&1265642285&sourceToken=152909023016r2w3a3z3c3h145412rpsvl

```

Unpackaged B2BiAPIs WAR directory is created.

Base64EncodeDecode.sh.in      innpsconfig      postcompile      searchDetailsFoType.xsl      stopActiveMQ.sh.in
bin                            InstructionsForDebuggingOnWindows.txt      postinstall      searchDetailsFo.xsl          searchStopsTests.cmd.in
build woodstock               InstructionsForThreadDumpsOnWindows.txt     print_url.cmd.in  searchDetails.xsl            StopStopsTests.vbs.in
checkModel.sh.in              localhostChangeModel.sh.in                  print_url.sh.in   SearchFiles.cmd.in          ThreadDump.cmd.in

-sh-4.2$ cd ..
-sh-4.2$ cd install/noapp/deploy/
-sh-4.2$ ls

admin      backups.war      distmailbox_apis      ghm.war      myaft      portlets.war      SWIFT_2005_MEW.jar      webproduct      webxtools      yydynamicml
admin.war  certwiz         distmailbox_apis.war  healthcheck  myaft.war   queueWatch        SWIFT_2006_MEW.jar      webproduct.war  webxtools.war  yydynamicml.war
aft        certwiz.war     abicsClient           healthcheck.war  mydm1       queueWatch.war    SWIFT_2007_MEW.jar      webservices     webx.war       yhello
aft.war    communitymanagement      abicsClient.war      helloworld    mydm1.war   regression        SWIFT_2008_MEW.jar      webservices.war  wssd          yyhello.war
h2bhttp    communitymanagement.war  federation            helloworld.war  myfilegateway  regression.war     SWIFT_2009_MEW.jar      website         wssd.war      yyoperation
h2bhttp.war  dashboard      federation.war        HsmApplet     myfilegateway.war  restapi           TestWebApp.war          website.war      xforms        yyoperation.war
h2biAPIs    dashboard.war   filegateway           HsmApplet.war  onboard      restapi.war       TestWebApp.war          webx             xforms.war
h2biAPIs.war  demosuite     filegateway.war       mailbox       onboard.war      SOMU_webApp        webdav             webxpord        yyDate
backups      demosuite.war   ghm                  mailbox.war    portlets       SOMU_webApp.war    webdav.war           webxpord.war    yyDate.war

-sh-4.2$
  
```

The screenshot shows the IBM Web Service Browser interface. At the top, a green banner reads "Deployed B2Bi APIs on Sterling Integrator." Below this is a browser window with the address bar showing "dublro24vm.devlab.ibm.com:50633/B2BiAPIs/svc". The interface has a dark blue header with tabs for "Web Service Browser", "Interactive Console", and "API Reference". On the right of the header are user information "Joe User", a "Help" icon, and the "IBM" logo. A search bar labeled "Filter" is positioned below the header. The main content area lists two categories of services: "CA Digital Certificate Services" and "CodeList Services". Under "CA Digital Certificate Services", there are four entries: "Read CADigitalCertificates" (GET), "Create CADigitalCertificate" (POST), "Update CADigitalCertificate" (PUT), and "Delete CADigitalCertificate" (DELETE). Each entry includes a colored button with the HTTP method, a link to the service URL, and a brief description. Similarly, under "CodeList Services", there are two entries: "Read CodeLists" (GET) and "Create CodeList" (POST), each with a colored button, a link, and a description.

Read CADigitalCertificates API in json.

[illegible]

We can perform CRUD operations on deployed B2BiAPIs and retrieve the response in json or XML whichever format we want. We can include or exclude the parameters pass in the GET request to APIs. We can set the range on response such as set the page size or number of instances of particular API we want to retrieve.

Results and Discussions

On single URI, we can have all the B2BiAPIs deployed and we can perform all the CRUD operations on these APIs. Allow clients to programmatically Create, Read, Update and Delete resources in B2Bi, and retrieve the response in either json or XML format. All the operations are defined already and a user interface is provided to include or exclude some of parameters, set range on the page to display the response.

Conclusions

After deploying the B2BiAPIs WAR file, it makes easy to the clients to have an access of all the APIs on the same URI. B2BiAPIs are developed for the clients to perform the rest operations on it and set the response accordingly.

Next Target

My target for the next 15 days is develop a Rest Client to perform the CRUD operations on the deployed APIs. My primary aim is to understand how to create a service and deploy it on SI. I have to understand how to create a business process and call the services and adapters from BP.