Application of Microservice Architecture to B2B Processes

(IBM Watson Customer Engagement)

by

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(21st August 2018 – 7th September 2018)

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

During the duration of my last report, I created a full-fledged REST API client for the B2Bi APIs. This client leverages the use of Business Processes for executing the REST CRUD calls to the APIs. Now my task is to convert the existing B2B Rest APIs to the Spring Framework and then compare the execution call time of the of the modified Spring APIs with the previously created IBM TENX APIs.

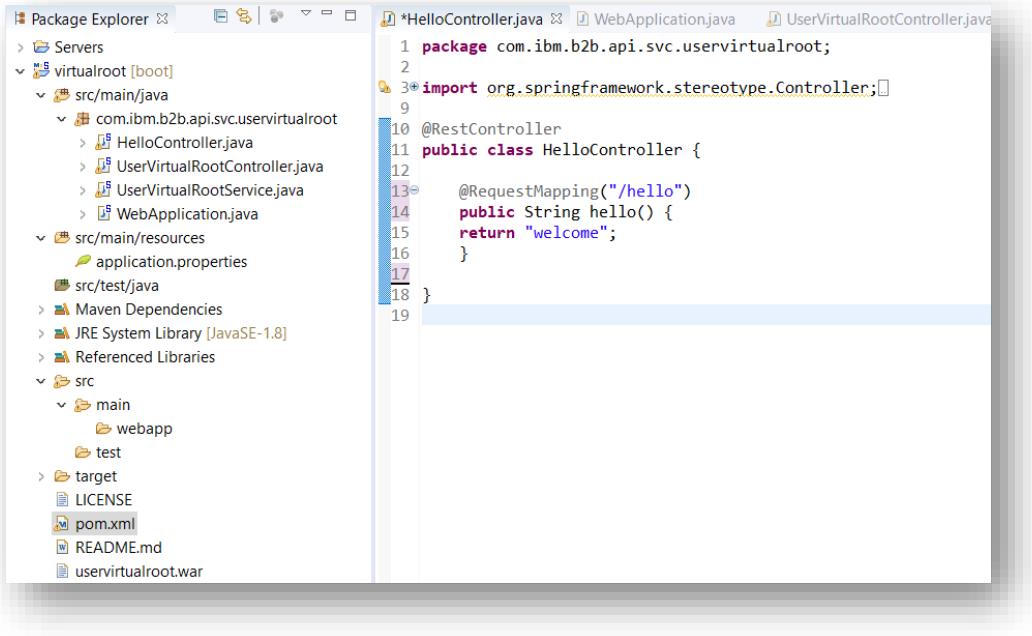
In this Report, I created a sample Spring Boot REST application and deployed it on the Sterling Integrator WebSphere Liberty server.

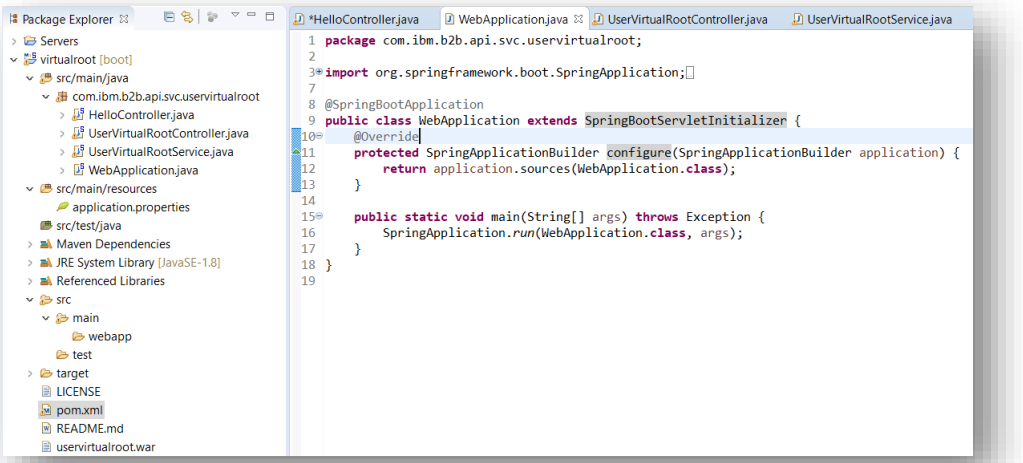
Report on the Present Investigation

(Progress during this 15-days period)

Creating a Sample REST Spring Application in STS (Spring Tool Suite) IDE

A sample REST controller which returns Welcome message when a GET call to `/hello` URL is made.

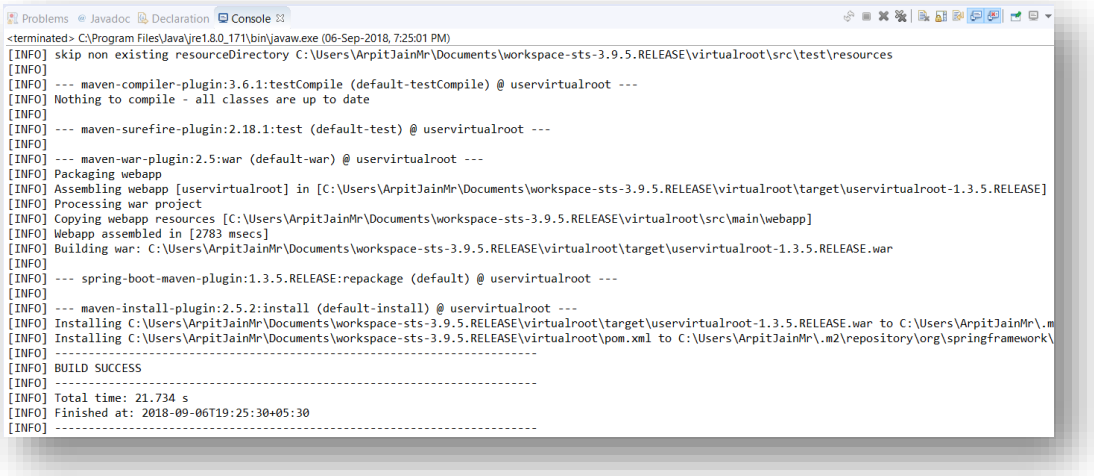




(Application class to start the spring boot)

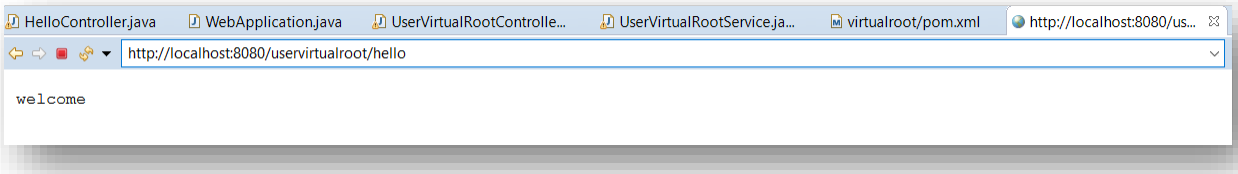
Packaging the Service as a WAR

Exported the application into a WAR file using Maven Install packaging.



Installing/Deploying the WAR on the WebSphere Liberty Server

This WAR file is now copied to the Liberty server and the server.xml configuration file is modified to create an entry for the new app. The server is then restarted, and the liberty server is also run for reconfiguration.



Results and Discussions

By using REST APIs, you can perform certain B2B functions using Sterling B2B Integrator. B2B REST APIs were released starting with Sterling B2B Integrator V5.2.6.1. These Rest APIs were built using core Java and IBM tenx framework. IBM and Sterling team is exploring about some alternative frameworks for converting these APIs which would make the execution of calls faster.

Conclusions

During past few weeks, I was involved in making a sample Spring Boot application WAR file on the liberty server of the Sterling Integrator. All the IBM B2B APIs are currently built over the IBM TENX framework that is slow in function. My team wants to convert these APIs to Spring Boot framework.

Next Target

My target for the next 15 days is to transform a small API like `UserVirtualRoot` to the Spring Boot framework and measure how fast is it when compared to the older framework.