# HCL Technologies Industrial Training

*BPM Training Examination Group Team Exam 2– Due Date 2 February 2018*

# IBM BPM Group Work -BPM 8002

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*Reading Time: 4 days*

*Writing Time: 96 Hours*

*Permitted Materials: Notes and any other material*

*Answer **all** questions in this section using the answer booklet(s) provided. Answers are expected to be succinct but complete. Answers that are too long and irrelevant will be penalized. Please do the technical work in IBM BPM Cloud and also take screenshots in a word document. Groups of 2 or 3 , will be done and submission will come in as one's group for this.*

**Question 1**   BPM uses the following coach frameworks namely Sparks,Brazos among others.

1. Explain in your own words and not more than 10 lines the history of Coach Frameworks based on literature from the web.

2. Sparks is now the preferred coach partner by IBM for BPM 8.6 , what are the advantages of using Sparks. Sparks provides 80 coach views please list 15 of those coach views and explain what each of those coach views does?

3. Brazos is another major coach framework.Based on the literature from the internet please explain in not more than 10 lines the history of Brazos and its unique features

4. Please list any noticeable differences between Brazos and Sparks coach frameworks.

[ 15 marks]

**Question 2a**   As an extension to Exam 2 , for buying a TV question please create another process called Pay A TV with one screen to capture the payment. In the process after the human service called CaptureTVPayment Human Service then put a message event that allows it to send a payment details to the original BuyTV process from Exam 2. The CaptureTVPayment Human Service should capture the same data eg Receipt Number, Payment Amount, Cashier,Date of Payment, Branch of Game. Run a couple of test and document screenshots. [ 15 marks]

**Question 2b** As an extension to Exam 2 , for buying a TV question please create another StandAlone Human service called Pay A TV with one screen to capture the payment. In the StandAlone human service then put a message event after the coach that allows it to send payment details to the original ByTV process. Run a couple of test and document screenshots. Please note in this case the message sending event is within the human service since there is no process in that case. The StandAlone Human Service should capture the same data eg Reciept Number, Payment Amount, Cashier,Date of PAyment, Branch of Game. The Human Service should be exposed as a Dashboard on Portal. Please run a couple of tests and document [ 15 marks]

**Question 2c** As an extension to Exam 2 , for the Consuming Java Question please implement the java program on your own in Eclipse and export the jar into BPM and repeat the same exercise."https://developer.twitter.com/en/docs"

[ 15 marks]

## Question 3  BPM Validations -Dialog Box

Please search for Kolban video "IBM BPM: Creating a Dialog with SPARK UI" on YouTube.
As an extension to Exam 2 , for the Home Loans Process question. Please add a dialog box when submitting the capture home loan using the dialog control and show the message "Are you sure you want to submit the home loan". There should be a submit or cancel button on the dialog box such that if i cancel the submission is not done. [ 15 marks]

## Question 4  BPM Validations -Coach Views

Please go through this video by Kolban on Coach Views,"IBM BPM: Custom Coach Views"
https://www.youtube.com/watch?v=j5bCvffQZbYt=2220s. There is an Ampersand Character between Y and t on the URL. Please also go through this YouTube vedio "IBM BPM 8.5 Advanced - Coach Views"

1. [ 5 marks ] In the Home Loans Process please create a Coach View called address with the following , surburb,town,street,Post Box,Country,Home number.

2. [ 5 marks ] Then add two controls in your capture home Loan and approve home loan Human Services namely called, Residential Address as well as Postal Address using the same Coach View created above.

3. [ 6 marks ] The second step will show the same addresses above in read only mode. Please make use of the coach views as well.

4. [ 6 marks ] Also please why we need coach views in 5 lines from your own words please.

## Question 5  ..
## BPM and Brazos Coaches toolkit

Please check on the web for documentation pertaining to the Brazos Coaches framework.

1. [ 5 marks ] Please list 10 coach views provided by Sparks or Default Coach Frameworks that you have used or intend to use.

2. [ 5 marks ] Download the Brazos Coaches toolkit from the internet and save on your machine. Create a process App called, DemonstrateBrazos-Username. Import the Brazos toolkit into your process app. Create a process called DemonstrateBrazos-Username-Process. The process has 2 Human Steps. Call the first Step BrazosHS1 and have fields, name , surname and address as well as gender in a select drop down where one selects male or female. To create this fields please only select Brazos coaches controls only not the default Sparks Controls. Please put validations to make sure name,surname and gender are mandatory as well.

3. [ 6 marks ] The second step will show the same fields above in read only mode.

4. [ 6 marks ] Based on the above. Explain the advantages of using Brazos or disadvantages of using Brazos as opposed to using Sparks.

5. [ 6 marks ] Implement a Coach using a header and footer coach views to view a document you just uploaded

## Question 6 ..
## BPM and Twitter

Please read this video https://www.youtube.com/watch?v=LooL6chvN4(Please put underscore between 6 and c in the url) for REST API concepts.Please read about http://www.apigee.com/. Please check on the web for documentation pertaining to a Twitter API you can call.

1. [ 6 marks ] Define the following , Endpoint,the S in the word HTTPS,based on the video above. Diferentiate YAML Vs JSON

2. [ 5 marks ] Please download a Twitter API and use Soapui to send messages to Twitter using SoapUi

3. [ 6 marks ] Generate a YAML for the Twitter Services

4. [ 6 marks ] Create a BPM Process called DemonstrateTwitterWithAPI with 2 step , one step called captureTwitterComments where one capture the twitter comments. Then followed by an intergration Service implmenting a Service Flow that consumes the Twitter YAML. Please go through this youtube video as well. "IBM BPM Technical Tutorials: Using External Services with REST" by Kolban.

5. [ 6 marks ] Please run some tests on the above and show the documentation.

   https://www.youtube.com/watch?v=TvGLm7BijJY

## Question 7 ..
## BPM and SOAP Web Services

Please read this vedio, "REST Vs SOAP - What is the difference? — Tech Primers". Explain what SOAP means?

1. [ 6 marks ] A Soap Web Service has its own advantages, Explain

2. [ 5 marks ] A soap Web Service has cons. Explains those

3. [ 6 marks ] Compare Soap and REST explaining the advantages and disadvantages in your own words.

4. [ 6 marks ] Soap uses XML and WSDLs. Please explain in 10 lines maximum the meaning of the 2 above.

**Question 8** ..
**BPM Servers**

BPM in a MultiCluster has AppTarget Cluster,Support Cluster and Messaging Clusters. For Company Miriro Enterprises with MultiCluster setup 2 Nodes in Production, 2 Nodes for Disaster Recovery, each node having an HTTP Server, running DB2 Databases,Windows Active Directory and also BP 8.6.

1. [ 6 marks ] Please explain AppTarget Cluster and its functions

2. [ 5 marks ] Please explain Support Cluster and its functions

3. [ 6 marks ] Please explain a Messaging Cluster and its functions

4. [ 6 marks ] Please explain a HTTP Server and its functions

5. [ 6 marks ] Please explain meaning of a cluster,node and application server giving examples of the above company. How many application servers are in Miriro Enterprises.

6. [ 30 marks ] Please draw an infrastructure diagram for Company Miriro Enterprises.

**Question 9** ..
**BPM Programming Fundamentals I**

1. [ 6 marks ] What is shared object?Please create a process with one step and show how to use a Shared Object. What are the advantages.

2. [ 5 marks ] In production one instance has been failed due to some business object has bad data or null values, How will you inject data on runtime in production?Please using process above to demonstrate this.

3. [ 6 marks ] How will you handle exception in BPM? implement error handling on the process created above and demonstrate how to catch error in BPM.

4. [ 6 marks ] What is durable and consume in UCA?

5. [ 6 marks ] Difference between Sub Process and Linked Process?

6. [ 30 marks ] Please explain Team Services and Team Filter Services. Please implement both in the process above and explain the use of the 2 and why from a business reasoning.

**Question 10** ..
**BPM Java Programming**


1. [ 6 marks ] How will you implement localization?Please using process in number 9 above implement it in the process and enable your process to be used in different countries eg SA and France.Explain advantages of localization.

2. [ 5 marks ] Please explain KPIs in IBM BPM. Please implement and show advantages.

3. [ 6 marks ] Using any process you have done with a tracking group. Please write a standalone coach that querries the data from the Tracking Group and shows it on the standalone coach in Portal. Expose the Standalone coach as a Dashboard. Expose it to only yourself please.

4. [ 6 marks ] IBM BPM allows for process simulation.Please explain what it is for and advantages for simulation.

5. [ 30 marks ] Write a standalone java program in Eclipse that triggers 30 process instances in a loop. Trigger this Service flow from REST API This is some kind of mimicking a BPM Batch process. Please explain the issues one can get from running a batch?

6. [ 30 marks ] Please write another java program that triggers a BPM process from eclipse and finishes the first task.

**Question 11** ..
**BPM Hardware and Infrastructure Knowledge**


1. [ 30 marks ] Please write a java program in Eclipse that querries a Saved Search and prints the results in the command line. Please use the BPM VMs for this not the Cloud.

2. [ 50 marks ] In pairs please install BPM 8.5.7 on a fresh Windows 2012 VM. Then upgrade the BPM to 8.6.

3. [ 30 marks ] Show how to start IBM BPM with screenshots on the local VM and how to stop it as well. Show the System Out log proof that you did start it successfully and stopped it successfully.

4. [ 30 marks ] Please check on the internet for any Web Service which is freely exposed. Run it on SoapUi. Then implement it in IBM BPM in a 2 step process and the service being in between. Obvious you have to use a Service flow to consume.

*———— End of Examination ————*