**DAILY ASSESSMENT FORMAT**

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| **Date:** | **20-July-2020** | **Name:** | **Raziya Banu** |
| **Course:** | **Coursera** | **USN:** | **4AL16EC058** |
| **Topic:** | **IOT** | **Semester & Section:** | **8th sem & ‘B’ section** |
| **Github Repository:** |  |  |  |

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| **FORENOON SESSION DETAILS** |
| **Image of session** |
| **Report –** In my first session today I have studied about - IOT So, before I jump into the actual time, I just wanted to cover the architecture that we'll be representing through this demo today. We are generating random data through Compute Engine and feeding it into a pub sub topic which we will then use Cloud Dataflow to stream it into BigQuery in real time. Let's go ahead and just jump into the actual demo. So, the first thing I want to show about how I got the setup is I' m going to head over to Google Cloud Storage which I mentioned is how we did the device simulations and also where recruited some folders for our Dataflow pipeline. So, we created a bucket titled Iot-airlines-v1-data.  We created two folders within this bucket and so that's going to include some information about our device simulators here. We've also created another bucket for our Dataflow pipeline. So, for our Dataflow pipeline, we've also included some files here and we created two folders for staging and tamp, it includes spinning up and shutting down Google Compute Engine instances and they access these GCS buckets for both IO and temporary file staging. Now, we've also set up a pub-sub subscription. So first thing we do here is head over to pub sub and you see here we've created a topic and this topic is titled airline messages.  The type of subscription we created under this topic is a pool subscription. We've named it Dataflow here. So, you can see here a publisher application, in this case it would be our IoT simulators. They create a topic in pub sub, which we've titled airline messages and that's a service that sends messages to the topic. Now, going back a little bit, I'm going to show you IoT Core because this is also the component in which we register our IoT simulators. What we've done here is we've registered this right here called iot-airlines-registry.  We've essentially cloned the Git repository where we have Java files and we compiled the application here, upload a jar file to the storage bucket that we showed earlier, this is our registry ID. It's going to accept in the form of MQTT and HTTP protocols in the region us-central1, we have pub sub set up for this IoT device registration which is the one we created earlier, airline messages. Anytime you register device to connect to IoT Core, you just need to register it first with Cloud IoT.  It consists of adding a device to a collection which was this registry and defining some of the essential properties like we've done here. The last thing I'm going to show you is our Dataflow pipeline that we've created.Play video starting at 3 minutes 17 seconds and follow transcript3:17What we've done to build this Dataflow pipeline is we've included SDK client libraries for Java and Python plus Rest APIs, and we've essentially cloned the Git repository, we've updated some files there and then we deployed it directly to Dataflow here. I'll show you here what the pipeline we've created looks like.  So essentially, it's reading messages, applying window and techniques for streaming information from our IoT devices, and it's creating a table row and entity convergence so that we can actually push it into other sources like BigQuery and Datastore. |

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| **Date:** | **20-July-2020** | **Name:** | **Raziya Banu** |
| **Course:** | **SalesForce** | **USN:** | **4AL16EC058** |
| **Topic:** | **Trailhead** | **Semester & Section:** | **8th sem & ‘B’ section** |
| **AFTERNOON SESSION DETAILS** | | | |
| **Image of session** | | | |
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