Email I send before we get started:

All,

                For those attending the lab, here are the pre-requisites.  Let me know if there is an issue and we can see what we can do to work through this.

                Each attended will need:

* Admin rights to the PC.
* An Azure Subscription (<http://portal.azure.com/>).  We will be setting up services like:
  + Azure IoT Hub
  + Azure Stream Analytics
  + Azure Functions
  + Azure Machine Learning
  + Azure HDInsight
  + Azure Data Lake
* If you do not have Admin rights to the Azure Subscription and are just delegated rights to a resource group, make sure the following “resource providers” are registered:

|  |  |
| --- | --- |
| Microsoft.Compute | Microsoft.DataLakeAnalytics |
| Microsoft.PowerBI | Microsoft.DataLakeStore |
| Microsoft.insights | Microsoft.CognitiveServices |
| Microsoft.StreamAnalytics | Microsoft.AppService |
| Microsoft.Web | Microsoft.DataFactory |
| Microsoft.EventHub | Microsoft.Sql |
| Microsoft.Devices | Microsoft.Search |
| Microsoft.Storage | Microsoft.visualstudio |
| Microsoft.MachineLearning | Microsoft.DataCatalog |
| Microsoft.TimeSeriesInsights | Microsoft.ServiceBus |
| Microsoft.DocumentDB | Microsoft.HDInsight |

* Access to Power BI (<http://powerbi.com/>)

The labs build off of each other, so if you miss something, you will have a difficult time catching up.

We will start at 8:30 AM and breakfast and lunch will be provided.  We will have a 30 min break at lunch (~noon) so you can make phone calls check email.

I estimate the Azure Resource cost at under $x, using the free SKUs when possible.

Prior to this workshop, we will have a 1 hour “prep” call, where we spend some time for a quick Azure overview and discuss what we will do and how to prepare for the Hands on Lab experience.

Summary:

We will demonstrate how Microsoft tools can be leveraged to provides a collaborative working environment with the ability to pull data directly from a list of cataloged source systems, share code and leverage a common tool such as Excel/Power BI to enable business users to interact with your models.   We will cover each of the Microsoft capabilities in depth, and then pull everything into the context of a predictive model hands-on lab.  We will be developing directly in the Azure environment.

|  | Topic | Duration |  |
| --- | --- | --- | --- |
| 8:30 AM | Breakfast & Overview of Azure Advanced Analytics | 30 mins | **Instructor PPTx:** End to End analytics spectrum and capabilities (CIS)  **Instructor Task:** Whiteboard |
| 9:00 AM | Deep Dive: Data Science Virtual Machine & TDSP  *VM image purpose built for doing data science productively. It contains several popular tools all preinstalled and configured for ready data exploration, modeling, data science development.* | 30 mins | **Instructor PPTx:** “Microsoft DSVM deck” and Demo and Team Data Science Process  **Instructor Task:** ~~DSVM Hands on Lab~~ |
| 9:30 AM | Deep Dive: Azure Machine Learning  *Leverage a graphical user interface with a growing number of algorithms, and can be extended with your own R and Python scripts. Publish models as a web service to be consumed by other applications/services, with the click of a button. Demo excel add in, Automation, Operationalization* | 1 hour | **Instructor PPTx:** “Azure Machine Learning” and Demo  **Instructor Task:** Azure Machine Learning Hands on Lab |
| 10:30 AM | Deep Dive: Data Lake Analytics  *No infrastructure management required, capacity is not bound by VMs. The service will start and stop the compute based on job submission. Develop programs in U-SQL, R, Python or .NET and scale over petabytes of data.* | 1 hour | **Instructor PPTx:** “Azure Data Lake Analytics” and demo.  **Instructor Task:** Data Lake Analytics Hands on Lab |
| 11:30 AM | Deep Dive: HDInsight  *Microsoft's managed Hadoop service, with support for many open source cluster types (R, Spark, Storm, HBASE, etc). Separation from compute and storage allows compute nodes to be scaled up/down on demand. This might work for agile test/dev environments that work in conjunction with the Cloudera implementation.* | 1 hour | **Instructor PPTx:** “Azure HDInsight deck” and demo  **Instructor Task:** HDInsight Hands on Lab |
| 12:30 PM | Lunch and personal calls | 30 mins |  |
| 1:00 PM | Deep Dive: Stream Analytics + Preconfigured Solutions (Industry specific)  *Real-time processing with Complex Event Processing Pipelines.*  [*Spin up*](file:///C:\Users\paswani\Documents\azureiotsuite.com) *Predictive Maintenance & Remote Monitoring & Connected Production* | 1 hour | **Instructor PPTx:** “Azure Stream Analytics deck” and demo. Demo industry specific solutions.  **Instructor Task:** Stream Analytics (ML focused) Hands on Lab |
| 2:00 PM | Deep Dive: Microsoft R Server  *R Server is an enterprise class server for hosting and managing parallel and distributed workloads of R processes.* | 1 hour | **Instructor PPTx:** “Microsoft R Server deck” and Demo Operationalization  **Instructor Task:** R Server Hands on Lab |
| 3:00 PM | Deep Dive: Cognitive Services  *A set of pre-built APIs to leverage in applications including Computer Vision API, LUIS (Language Understanding Intelligence Service, etc.)* | 1 hour | **Instructor PPTx:** “Azure Cognitive Services deck” and Demos  **Instructor Task:** Cognitive Services & Chatbot Labs |
| 4:00 PM | Deep Dive: AI in Chatbots and Virtual Assistants  *Leverage the framework and template service to create intelligent bots to interact with users. Discuss: Text analytics projects – en, thai, khazak* | 30 mins | **Instructor PPTx:** “Azure Bot Services and Framework deck” and Demos  **Instructor Task:** Build a Chevron specific Chatbot Hands on Lab (Q&A) |