# Build Conference: AI Immersion Day, May 9, Seattle, WA

Schedule: 10-5 with 1 hour for lunch (5 hrs of material)

## Agenda:

**First session:** **R server: Tools for scaling R using Azure** (2.5 hrs - John-Mark - presenter TBD)

This class covers several use-cases for Microsoft's R Server (MRS)

**Prerequisites**

- Azure subscription / portal & VM tools. - starting with Windows *DSVM (Will RTVS v1 be pre-installed? Will Pandoc, for Rmd files, and other packages, as listed below? )*

- Familiarity with ML / DS process with at least one toolkit

- Some Linux and Windows command line familiarity

- No previous knowledge of R assumed

**Curriculum**

**Intro.  -- 30 - 40 min**

Slides – 15 minutes

The language R model. Why R | formulas

    IDEs for R. RStudio/ \_RT visual studio\_ / command line / Jupyter

    Windows v/s Linux OS.

    libraries most used.   e.g. Dplyr / tidyR/ ggplot / markdownR (See Rstudio ref sheet downloads )

lubridate / stringR / devtools

[www.rdocument.org](http://www.rdocument.org) / mran.microsoft.com

Hands on – 30 minutes

Resources:

* Intro to R: <https://github.com/Azure/LearnAnalytics-Notebooks-IntroToR>
* Data structures: <https://github.com/Azure/LearnAnalytics-mr4ds/blob/master/Student-Resources/Labs/Lab1-data-structures.Rmd>
* Dplyr: <https://github.com/Azure/LearnAnalytics-mr4ds/blob/master/Student-Resources/Labs/Lab3-dplyr.Rmd>
* Functions: <https://github.com/Azure/LearnAnalytics-mr4ds/blob/master/Student-Resources/Labs/Lab2-function.Rmd>

**R in the Cloud -- 50 min**

Slides – 10 minutes

    libraries: mrsdeploy/ RevoScaleR / SparklyR / SparkR

    Remote execution - single machine - mrsdeploy

    Batch R:  doAzureParallel package

    Spark:  RevoScaleR / SparklyR / SparkR

Hands on – 40 minutes

Resources:

Strata San Jose 2016: <https://github.com/Azure/Azure-MachineLearning-DataScience/tree/master/Misc/StrataSanJose2017/Code/MRS>

* 1-Clean-Join-Subset.R
* 2-Train-Test-Subset.R

**Deployment option use-cases  -- 50 min**

* R modules in Azure ML - & publishing web services from R
* R Server w/ MS SQL
* Web services mrsdeploy

Slides - 10 minutes

Hands on – 40 minutes

Resources:

1. Mrsdeploy hands on: Strata San Jose 2016: <https://github.com/Azure/Azure-MachineLearning-DataScience/tree/master/Misc/StrataSanJose2017/Code/MRS>

* 3-Deploy-Score-mrsdeploy.R

1. AzureML hands on: LearnAnalytics – mrs4ds: <https://github.com/Azure/LearnAnalytics-mr4ds/blob/master/Student-Resources/rmarkdown/5-AzureML.Rmd>