## IC2E Tutorial Agenda

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### Part 1. The Cloud and Interactive Scientific Discovery

Starting at 10:30

* 1.5 hour. An Introduction to basic cloud access and operation.
  + Azure account setup and introduction to Jupyter
  + Storage Systems: blob stores including S3, Azure blob storage, OpenStack Swift, SQL and NoSQL storage including Google Big Table, AWS DynamoDB, AWS RDS, Azure Tables
  + Hands-on Lab: Blob and Table Storage using the Azure Portal and Jupyter.
* 12:00 Lunch

### Part 2. Scaling Science in the Cloud

This section focuses on higher level services in the cloud.

* ¾ hour. Virtual Machine and Containers
  + Compute Infrastructure: Virtual Machines and how to launch them and attach storage. Demos from AWS and JetStream.
  + Containers: Docker Demo.
* ¾ hour. Parallelism in the cloud (discussion and demo)
  + Map Reduce
  + Spark and Hadoop
  + Kubernetes and Mesos and container services.
  + Microservice concepts and demo
* ½ hour break at 3:00.
* 1. hour. Data Analytics
  + Hands-on Lab: Yarn on Azure with Spark.
* 1. Hour. Machine learning and event stream analysis.
  + Survey discussion
  + AzureML with Event Hub demo and Hands-on lab.