**Final Project**
Log Analytics

**Problem Statement:**
When moving solutions to the cloud, selecting appropriate sizes for your virtual machines is an issue from both a cost and performance perspective. Choose one too big, and you're paying more than you need to. Choose one too small, and your application will not scale properly. In this project, I use Log Analytics to collect various types of data during performance tests to help determine appropriate sizing of a VM.

**Overview of the Technology:**
To demonstrate the use of Log Analytics, we will run performance tests that simulate 5,000 search requests per second against four different virtual machines, each one housing a directory server (OpenDJ). Log Analytics is part of Operations Management Suite, which collects Linux OS-level data via the use of an agent installed on each VM. Additionally, the performance testing tool built into OpenDJ reports metrics, but not in a format understood by Log Analytics. I wrote a java tool that will watch the file that reports the performance testing results, transform them into JSON and use the Log Analytics Data Collector API to submit the results for analysis. We then will examine both dashboards and queries to visualize and compare the results.

**High Level Steps:**
1) Provision 4 Linux VMs of varying strength
2) Create Log Analytics objects in Azure portal and connect the VMs
3) Install OpenDJ and deploy custom java code
4) Run performance test using searchrate tool, submit to Log Analytics using custom java code
5) Analyze results via dashboard and queries in Azure Portal

**Data Source:**
- 50,000 sample users created automatically during OpenDJ install
- Performance data collected from VM and from the performance test results

**Hardware Used:**
Centos 7.4 Azure VM in four configurations over the following: 2 CPU, 8 CPU, hard disk drive, solid state drive (so, 2 CPU HDD, 2 CPU SSD, 8 CPU HDD, 8 CPU SSD)

**Software Used:**
ForgeRock OpenDJ 5.5 (https://go.forgerock.com/Registration-Trials-Download.html)
Azure Log Analytics
Any Java IDE (I used Eclipse)
Custom Java code (the jar is called FileTailer)

**YouTube Links:**
2 Min: https://youtu.be/wIE2RjrE-WM
15 Min: https://youtu.be/FeINq6da5II

**GitHub Repo:** https://github.com/patstromberg/da-final