Day - 1

- **Why Consul?**
  - Modern Ops Challenges
  - An Explosion of Services
  - First Class Service Discovery
  - Distributed Failure Detection
  - Reactive Configuration via Key/Value Store
  - Multi Datacenter Aware
  - Is This Course For You?
  - How to Use This Course
  - Lab Setup

- **Service Discovery**
  - From Nodes to Services
  - Registering a Web Service
  - Service Definitions
  - Health Checking the Web Service
  - Launching NGINX
  - Consul DNS for Randomized Internal Service Load Balancing
  - HTTP API and Failing Services
  - Exercise Register Load Balancer
  - Maintenance Mode
  - Registration Methods

- **Monitoring Nodes**
  - Nodes and Services
  - What We Will Set Up
  - Defining the consul-server Node
  - Launching the consul-server Node
  - Network Interfaces on consul-server
  - Exercise Consul Is Easy to Install
  - Installing Consul
  - Running the Consul Dev Agent
  - Running Consul Locally to Access the Web UI
  - Interface Web UI
  - Interface HTTP API
  - Interface DNS
  - Interface CLI RPC
  - Client vs. Cluster Address Conventions
  - Challenge Spin Up Web and LB nodes
  - Defining Web and LB Nodes
  - Running Web and LB Nodes
  - Consul Agent On Web and LB nodes
  - Remote Command Execution Across Cluster
  - Graceful Leave vs. Failure

Day - 2

- **Dynamic LB Config with consul-template**
  - HAProxy
  - Setup Script for HAProxy
  - Static HAProxy Config
  - Handling Failed Services
  - HAProxy Config Template
  - What Is Consul Template?
  - Installing Consul Template
  - Consul Template Dry Mode
  - Dynamically Regenerate HAProxy Config
  - Rolling Updates with Maintenance Mode
  - Other Tools Like Consul Template
  - Benefits Recap and What Next

- **Reactive Configuration via Key/Value Store**
  - Why?
  - Creating Keys and Folders in the Web UI
  - Key Value CRUD via the CLI
  - Exercise Get KV Data into HAProxy
  - Reactive, Real Time Configuration Files
  - Revolutionizing Configuration Management
  - Blocking Queries
  - Tools to Investigate

- **Health Checking**
  - Intro
  - Terms Agent, Client, and Server Mode
  - Gossip and Edge Triggered Updates
  - Understanding Serf Health Status
  - Node and Service Level Check Definitions
  - Custom Node Level Health Checks of Disk, Memory, and CPU
  - Self Healing Nodes
  - Health Checking Is the Value at the Last Transition
  - Health Check Recap
  - Don't Forget to Try This Out
  - Consul Docs Overview