

# Cloud Architecture Course Outline

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Cloud Operations course is all about empowering the student to become an operations specialist – from day one on the job. Student will be able to learn ins and outs of cloud operations industry – putting up servers, instances, storage across all the leading cloud vendors (Windows Azure, Rackspace, Heroku & Digital Ocean). Multiple labs and reading assignments across all the above Cloud Vendors. Depending on available time, basics of Google & IBM Cloud Services will also be covered. Windows Azure will be used as baseline for all deep dive labs. Students will also be introduced to DevOps concepts such as Chef and Puppet along with labs in Chef.

## TOPICS

### MODULE 1 CLOUD OPERATIONS: INTRODUCTION

**Unit 1** Introduction to Cloud Operations

**Unit 2** Cloud Operations: 1st Principles

**Unit 3** Setting up Application on Heroku

**Unit 4** Setting up a droplet in Digital Ocean

**Unit 5** Setting up an Azure Websites instance on Azure Portal

**Unit 6** Rackspace Sign up

**Unit 7** Across All above Vendors, compare add ons being offered by respective vendors

### MODULE 2 AZURE DEEP DIVE

**Unit 1** Azure high level overview

**Unit 2** Azure Platform: Key Components

**Unit 3** Azure Portal: Create and Launch Azure Websites and Cloud Services

    Create a Virtual Machine in Azure

    Create a SQL DB, Storage and link these to Cloud Services/VM.

**Unit 4** Azure Local Environment Installation and Setup

**Unit 5** Download Publish Settings and Publish Azure Websites via Visual Studio

**Unit 6** How to migrate an existing .NET app into Windows Cloud Services

**Unit 7** How to publish Local Web app into Azure Websites using Visual Studio

**Unit 8** How to RDP into your Cloud Services via Azure Cloud

**Unit 9** Heroku Overview

**Unit 10** Download Git Bash and Set up Public and Private Keys on Local Machine

**Unit 11** A lab from Azure Gallery

Linking Resources within Azure

### **MODULE 3 DEV OP TOOLS FOR CLOUD OPERATORS**

**Unit 1** What is Chef? Key Components, Basic Terminology.

**Unit 2** Chef Solo Installation

**Unit 3** Chef Server Installation

**Unit 4** Setting Configuration and Starting Chef Services©

**Unit 5** What is Knife and Configuration?

**Unit 6** Getting Started With Chef

**Unit 7** What is Puppet? Quick overview

New topics Overview of New Relic - What is it, How to use it, and Why?

Supplemental Material

### **MODULE 4 CLOUD SECURITY AND FUNDAMENTALS**

**Unit 1** Cloud Security

**Unit 2** Regulatory and Compliance

**Unit 3** QoS Ontology/Framework

**Unit 4** Cloud SQL Backups on Azure

**Unit 5** Cloud Storage Backups on Azure

## Unit 6 Misc. Concepts and Topics based on Student Feedback