Building a Cloud Roadmap

Lee Atchison

Pre-Read Information

I recommend reading the following articles before attending the class:

- **The 6 Levels of Cloud Maturity**
  New Relic Blog – Lee Atchison
  There are six basic maturity levels that organizations go through during their cloud adoption process
  https://blog.newrelic.com/2018/01/02/cloud-maturity-levels/

- **Five revealing differences in cloud adoption around the globe**
  Diginomica – Lee Atchison
  Where you live in the world changes how you feel about cloud adoption. New Relic's Lee Atchison reveals five differences he encountered on three continents.
  https://diginomica.com/2018/01/09/five-differences-cloud-adoption-world/

- **What Are Microservices and Why Should You Use Them?**
  ProgrammableWeb – Lee Atchison
  https://www.programmableweb.com/news/what-are-microservices-and-why-should-you-use-them/analysis/2016/05/05

- **Your data is more secure with SaaS companies than it is with you**
  Diginomica – Lee Atchison
  Conventional wisdom says you should protect your data by keeping it close. In reality, it can be more secure with SaaS companies.
  https://diginomica.com/2017/10/25/your-data-is-more-secure-with-saas-companies-than-it-is-with-you/

Reference Information

The following are articles, web pages, videos, books, and people that can help you in various aspects of your cloud migration. Many of the writings here are by the course author, but many are other cloud, migration, and DevOps experts.

General Reading Information

- **Change and the Cloud**
  CIOReview – Lee Atchison
  https://amazon.cioreview.com/cxoinsight/change-and-the-cloud-nid-14045-cid-64.html

- **10 Tech Books For Summer Reading**
  Network Computing – Marcia Savage
  https://www.networkcomputing.com/data-centers/10-tech-books-summer-reading/754721319

- **The 6 Levels of Cloud Maturity**
  New Relic Blog – Lee Atchison
  There are six basic maturity levels that organizations go through during their cloud adoption process
  https://blog.newrelic.com/2018/01/02/cloud-maturity-levels/

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  https://diginomica.com/2018/01/09/five-differences-cloud-adoption-world/

Services and Microservices

- **Podcast: The New Stack**
  @thenewstack
  https://thenewstack.io

- **What Are Microservices and Why Should You Use Them?**
  ProgrammableWeb – Lee Atchison
  https://www.programmableweb.com/news/what-are-microservices-and-why-should-you-use-them/analysis/2016/05/05

- **Understanding The Role of APIs in Microservice Architectures**
  ProgrammableWeb – Lee Atchison
  https://www.programmableweb.com/news/understanding-role-apis-microservice-architectures/analysis/2016/05/05

- **Bulding Right-Sized Application Services: The Goldilocks Calculation**
  New Relic Blog – Lee Atchison
  https://blog.newrelic.com/2016/12/07/services-size-goldilocks-calculation/

- **Trend Watch: Serverless computing**
  Raconteur – London Times
  https://www.raconteur.net/technology/trend-watch-serverless-computer

DevOps Best Practices

- **IT Revolution**
  https://itrevolution.com

- **Book: The Phoenix Project**
  https://itrevolution.com/book/the-phoenix-project/

- **Book: Accelerate**
  https://itrevolution.com/devops-books/

- **Book: The DevOps Handbook**
  https://itrevolution.com/book/the-devops-handbook/

- **Gene Kim**
  @RealGeneKim
  http://www.realgenekim.me

- **The 2018 Pivot for Dynamic Apps, DevOps**: Live Deployment Monitoring Takes Center
  Stage Away From Container Orchestration
  Integration Developer News – Lee Atchison
  http://www.idevnews.com/stories/7136/The-2018-Pivot-for-Dynamic-Apps-DevOps-Live-Deployment-Monitoring-Takes-Center-Stage-Away-From-Container-Orchestration

- **Forget AWS Lambda, so long Kubernetes – this is the future of serverless**
  Diginomica – Lee Atchison
  https://diginomica.com/2018/03/23/aws-lambda-kubernetes-future-serverless/

- **To get the most out of devOps, go all in, survey suggests**
  ZDNet – Stephanie Condon
  A survey of IT professionals, commissioned by New Relic, suggests that a partial adoption of a devOps strategy may be counterproductive.
  http://www.zdnet.com/article/to-get-the-most-out-of-devops-go-all-in-survey-suggests/

Dynamic Applications vs Static Applications in the Cloud

- **Visibility into the Migration From Static to Dynamic Infrastructure [VIDEO]**
  New Relic Blog – Lee Atchison
  https://blog.newrelic.com/2016/09/14/static-dynamic-cloud-infrastructure-video/

- **Auto Scaling – The Dynamic Cloud Made Easy**
  New Relic Blog – Lee Atchison
  A simple path to dynamic infrastructures.

https://blog.newrelic.com/2017/08/24/auto-scaling-dynamic-cloud/

- **The Dynamic Cloud: Availability and Scalability for Your Biggest Days**
  New Relic Blog – Lee Atchison
  https://blog.newrelic.com/2018/02/02/dynamic-cloud-availability-scalability/

- **Lee Atchison**
  @leeatchison
  https://www.leeatchison.com

Rearchitecting and Modernizing Applications

- **Minimum viable product considered harmful without architecture**
  Diginomica – Lee Atchison
  https://diginomica.com/2017/02/22/minimum-viable-product-considered-harmful-without-architecture/

- **AWS Lambda v Amazon ECS – two paths to one goal, which is best?**
  Diginomica – Lee Atchison
  https://diginomica.com/2017/06/29/aws-lambda-amazon-ecs-two-paths-one-goal-which-best/

- **Everything you ever wanted to know about serverless computing but were afraid to ask**
  Diginomica – Lee Atchison
  What is serverless computing?
  https://diginomica.com/2017/08/08/everything-serverless-computing-afraid-ask/

Twelve Factor Applications

The Twelve Factor App is a methodology for building software as a service apps that use best practices for creation and deployment of web applications. Applications conforming to this methodology are easier to migrate to the cloud and easier to scale in the cloud.

- **The Twelve-Factor App**
  https://12factor.net

- **The Twelve-Factor App ePub Book**
  https://12factor.net/12factor.epub

Managing Risk in Projects

- **Risk Management – Chapters 5-8**
  Book: "**Architecting for Scale**" by Lee Atchison, O'Reilly
  Available online in Safari as part of your subscription
  Paperback and downloadable versions available at Amazon
  http://shop.oreilly.com/product/0636920047070.do

Security

- **Your data is more secure with SaaS companies than it is with you**
  Diginomica – Lee Atchison
  Conventional wisdom says you should protect your data by keeping it close. In reality, it can be more secure with SaaS companies.
  https://diginomica.com/2017/10/25/your-data-is-more-secure-with-saas-companies-than-it-is-with-you/

- **Shaun Gordon**
  @shaungordon
  Chief Security Officer – New Relic

Monitoring and Analysis

- **New Relic**
  @newrelic
  https://newrelic.com

- **Delivering Real-Time Insights to Enterprise Customers**
  AWS Partner Network Blog – Kate Miller
  https://aws.amazon.com/blogs/apn/delivering-real-time-insights-to-enterprise-customers-new-relic-an-aws-migration-competency-partner/

- **Cloud Migration: Measurement at the Moment of Truth**
  AWS Partner Network Blog – Lee Atchison
  Role of measurement before, during, and after a cloud migration.
  https://aws.amazon.com/blogs/apn/cloud-migration-measurement-at-the-moment-of-truth/

Selecting Clouds

- **How Many Clouds Do I Need? Selecting Multi Cloud Vendors in the Real World**
  New Relic Blog – Lee Atchison
  Using multiple clouds in real world applications.
  https://blog.newrelic.com/2017/07/19/multi-cloud-vendor-selection/

- **Hey You, Get Off My Cloud! Multi-Tenant Cloud vs. Single-Tenant Cloud**
  New Relic Blog – Lee Atchison
  https://blog.newrelic.com/2018/01/08/multi-tenant-vs-single-tenant-cloud-adoption/

- **Pivotal Cloud Foundry**
  @pivotalcf
  https://pivotal.io/platform

Cloud Providers

- **Amazon Web Services**
  @awscloud
  https://aws.amazon.com
  AWS Partner Network
  @AWS_Partners

- **Microsoft Azure**
  @Azure
  https://azure.microsoft.com/

- **IBM Cloud**
  @IBMCloud
  https://www.ibm.com/cloud/

- **Google Cloud Platform**
  @GCPcloud
  https://cloud.google.com

Modern Applications

What is a modern application? A modern application:

- Is composed of many services and/or microservices
- Is built using agile development principles and deployed and managed using DevOps principles
- Is continuously deployed with testing performed in production
- Is dynamic in nature
- Leverages the cloud for dynamic resource allocation
- Follows 12 Factor application methodologies as appropriate