Why Move to the Cloud Now ?

This section of the course will go into the fundamentals of why there is a need to move to the cloud for software development manager (SDM), Technical Program Manager (TPM), IT-Manager, directors.

We are at an interesting point in time where the way we use and think about infrastructure is changing. The move to the cloud has been talked about for the last 10 years or so but I believe we are at an interesting tipping point. The reason for this is that there has been a rapid growth in the maturity of cloud infrastructure available and of course the cost of being on the cloud.

When we talk here about infrastructure it is important to understand that IaaS is made up of hardware like switches and servers but also there is a layer of software that helps users to deploy, manage and maintain the infrastructure that is built but the cloud provider. Though the primary capabilities are similar, advanced capabilities differ from provider to provider i.e AWS vs Azure.

Over the last couple of years the core components of infrastructure have advanced in terms of capabilities and from an operational perspective teams have learnt how to operate in an Agile way. This has in turn made leaders within the IT and technology space to take a second look at moving to the cloud.

If you take a step back and look at what organizations have been doing; they have been procuring hardware, racking servers, managing and maintaining their hardware infrastructure. There is a tremendous amount of manpower required and manpower translates to cost. Also the cost of the acquired hardware translates into hardware depreciating over the predetermined life of the hardware.

The cost of procurement and maintenance aspect can be minimized when you move from an on-premises datacenter setup to using the cloud. This also helps companies focus more on their core business rather than spending time and resources working on managing their infrastructure that does not add a lot of

business value to its customers. On the other hand moving to the cloud helps organizations build reliable, scalable, and durable applications.

One of the fundamental benefits of the cloud is the opportunity to swap upfront capital infrastructure cost with low variable costs that scale with growth. With the cloud, you no longer need to plan and procure servers and other IT infrastructure equipment weeks or months in advance. Instead, infrastructure can be instantly spun up in minutes. This is something that can no longer be overlooked. Think about the retail industry that has certain days in the year like black friday or boxing day where traffic to websites go up by 5x. If you are a retail company like Target or Best Buy you would need to buy 5x more hardware just to accommodate the spike after which that hardware is no longer necessary.

Moving to the cloud is not all rosy, it comes with it own issues like the initial cost of moving to the cloud, having the right type of expertise to run your applications in the cloud and your security posture in general. Sometimes customers who move to the cloud feel that a lot of work has been put into moving to the cloud but the outcome of moving to the cloud is not very tangible from a end user perspective.

In this course you will learn about the fundamentals of why there is the need now more than ever to move to the cloud. The reason why moving to the cloud makes sense, how do legacy applications move to the cloud and the various types of approaches to move to the cloud. You will learn terminologies that you would need to fundamentally understand when we talk about the cloud. We will move on to talking about what cloud native designs i.e building applications for the cloud. As we learn about Cloud native architecture we will get you a quick primer on microservices and their importance and also touch a little on Kubernetes and understand the part it plays.

You will get an overview of the various types of cloud deployment strategies keeping in mind Operations, Security, Redundancy and Scaling.

We will be using the AWS cloud of most of the examples in this course. The reason for choosing Amazon AWS for this course is that AWS is probably the more mature than most of its competition. It also has a wider range of

adoption in the industry and is easier to access for you as an individual.

Who is this course for ?

This course is primarily designed for managers and leaders in IT or Tech organizations. You could be a development manager (SDM), Technical Program Manager (TPM), IT-Manager, director or you could be someone in tech who just wants to learn about the cloud.

The course aims to give you a good primer on cloud design patterns, cloud terminology, cloud components cloud best practices practices and operating on the cloud. This is to ensure that you get to know all you need to know when your organization moves to the cloud or when you start interacting with a cloud team. It will also help people who are looking to work for cloud providers like AWS or Azure or any other SaaS service ask the right type of questions.

If you are a leader in the tech industry we are sure you are seeing the need to know of the fundamentals of the cloud now more than ever. More than 60% jobs require some sort of cloud exposure. Some places don't even call this out anymore as they believe that most of the talent already know of the fundamentals. The job market is evolving driven by the evolution of organizations.

Why Cloud ?

If you think about every successful tech company - Facebook, Amazon, Netflix, Google have been able to grow and scale the way they have only because of the scalability and agility that cloud offers. By choosing to run your infrastructure on the cloud you are able to provide value to your customer at a quicker pace. Your teams do not need to wait for provisioning i.e ordering, waiting and racking servers which in most places takes a couple of weeks at the very least. An idea today could be deployed as soon as possible with less time spent waiting for infrastructure.

Also consider the rapid growth of startups. The startup space has exploded over the last 8 years because there is no longer a large cost to acquire infrastructure to build and launch your applications. And supposing an app have viral growth then the fact that you are on the cloud automatically takes care of the infrastructure aspects of scale.