[Cloud Digital Leader Certification Learning Path](https://partner.cloudskillsboost.google/paths/75)

**Digital Transformation with Google Cloud**

Course Overview

# Executive Introduction

[00:00](javascript:;)Some people imagine that the technical capacity to understand the use of the cloud is all you need in order to transform a business.

[00:10](javascript:;)And I think this would be a big mistake.

[00:16](javascript:;)Hello, my name is Vint Cerf.

[00:18](javascript:;)I'm vice president and Chief Internet Evangelist at Google.

[00:22](javascript:;)My primary job is to make sure there is more Internet out there for everyone.

[00:27](javascript:;)But my big interest is making sure the cloud is useful as well.

[00:31](javascript:;)I think if you're concerned about being ready for cloud, you need to understand what its capabilities are, what it can deliver.

[00:38](javascript:;)You don't necessarily have to understand in great detail how it does it, but you have to appreciate what it can

[00:44](javascript:;)do and how much flexibility it offers in terms of new products and services, or transforming ways in which all businesses operate.

[00:54](javascript:;)Without that insight, without that understanding, it's very hard to steer yourself into an advantageous place in the cloud world.

[01:05](javascript:;)If you think a little bit about the scale of the cloud.

[01:08](javascript:;)You'll appreciate that most companies and certainly most individuals would not be capable of investing in and maintaining the computing capacity and data storage capacity of today's clouds.

[01:22](javascript:;)That transformation means that companies have access to facilities they otherwise could not get access to.

[01:29](javascript:;)Failure to at least attend to new technology could be a fatal risk.

[01:37](javascript:;)And that's why we think everyone should be at least aware of what the new technologies are and whether or not they fit into the corporate structure.

[01:46](javascript:;)Let's talk a little bit about leadership.

[01:48](javascript:;)I think most leaders don't need to know in detail how the Internet works, but they have to have

[01:54](javascript:;)a kind of fundamental appreciation for what it means to get access to cloud based technology through the Internet.

[02:02](javascript:;)Think of the Internet and the cloud as an enabling infrastructure that can be purposed in infinite different ways.

[02:10](javascript:;)So it's important that the leaders at least have a conceptual grasp of what these technologies can do for their companies, their products and services.

[02:20](javascript:;)This is not just about technology.

[02:22](javascript:;)It's about how technology is used.

[02:25](javascript:;)And that requires real vision.

# Course Introduction

[00:00](javascript:;)There's a lot of excitement about cloud technology and digital transformation.

[00:04](javascript:;)But you might also have many unanswered questions.

[00:07](javascript:;)For example: What is cloud technology?

[00:11](javascript:;)What does digital transformation mean?

[00:14](javascript:;)How does cloud technology help you or your organization?

[00:17](javascript:;)Where do you even begin?

[00:19](javascript:;)If you've asked yourself any of these questions, you're in the right place.

[00:23](javascript:;)At Google Cloud, we want to provide you with the necessary information and tools for success as you begin your journey to the cloud and digital transformation.

[00:33](javascript:;)This course, “Digital Transformation with Google Cloud” was designed to help you: Understand why and how the cloud revolutionizes businesses.

[00:42](javascript:;)Explain general cloud concepts.

[00:45](javascript:;)And identify the benefits and tradeoffs of using IaaS, or infrastructure as a service; PaaS, or platform as a service; and SaaS, or software as a service.

[00:56](javascript:;)You’ll begin by defining some important terms that you’ll hear throughout the course, and by describing the benefits of adopting cloud technology to digitally transform a business.

[01:06](javascript:;)Next, you’ll explore some fundamental cloud concepts.

[01:10](javascript:;)You’ll learn how migrating to the cloud affects your organization’s flexibility, agility, reliability, and total cost of ownership.

[01:18](javascript:;)You’ll also explore the different types of infrastructure and explore various use cases for them.

[01:23](javascript:;)From there, you’ll learn about cloud computing models, and the shared responsibility between an organization and its cloud provider in hardware, software, security.

[01:35](javascript:;)Throughout the course you’ll be presented with graded knowledge assessments.

[01:38](javascript:;)You must pass these assessments to receive course credit.

[01:41](javascript:;)Okay, let's get started!

Why Cloud Technology is Transforming Business

# Introduction

[00:00](javascript:;)To understand how the cloud is transforming businesses, it’s important to learn about the basics of cloud and cloud technology.

[00:06](javascript:;)In this section of the course, you’ll explore: key terms related to the cloud and digital transformation, the benefits of cloud technology with regard to an organization’s

[00:16](javascript:;)digital transformation, the differences between on-premises infrastructure, public cloud, private cloud, hybrid cloud, and multicloud, and the drivers and challenges that lead organizations to undergo a digital transformation.

[00:31](javascript:;)Let’s get started!

# Innovations, paradigm shifts, and digital transformation

[00:00](javascript:;)Innovation doesn’t come in a linear pattern.

[00:02](javascript:;)It comes in waves.

[00:05](javascript:;)And each of these waves is powered by a breakthrough technology.

[00:08](javascript:;)There was the age of the printing press, the steam engine, electricity, the transportation age, the first computers and, today, data and cloud infrastructure.

[00:25](javascript:;)Each of these inventions triggered thousands of innovations, changing what's possible in life and work.

[00:31](javascript:;)Consider the invention of the printing press.

[00:34](javascript:;)It was revolutionary because it gave everyone access to books, encyclopedias, and even playing cards in their daily lives.

[00:41](javascript:;)It also led to a broader recognition of intellectual property through widely distributed patents, which in turn prepared the world for the first industrial revolution.

[00:52](javascript:;)There was no turning back!

[00:55](javascript:;)Steam-powered engines brought us cars and trains which then radically transformed the transportation industry; allowing businesses to produce and transport goods at scale.

[01:05](javascript:;)The entire Industrial Revolution resulted from new technologies that came together and facilitated new ways of working.

[01:14](javascript:;)In the same way, electricity brought us the light bulb, household appliances and eventually the computer.

[01:20](javascript:;)What the printing press, the steam engine and electricity all have in common is that they’re examples of

[01:26](javascript:;)a paradigm shift: a fundamental and irreversible change in the way that humans work and engage with the world.

[01:33](javascript:;)How do these examples relate to cloud technology?

[01:36](javascript:;)Well, we’re right in the middle of another paradigm shift: one of digital transformation.

[01:44](javascript:;)Cloud technology is transforming how organizations create value how people work, and ultimately, how people live.

[01:51](javascript:;)It’s the catalyst for thousands of innovations that change how we navigate the world, how we interact with media, how we diagnose illness, or how we combat environmental issues.

[02:02](javascript:;)Digital transformation, as a term, has become prominent over the past few years.

[02:08](javascript:;)But what are the key components of a digital transformation, how do they relate to the use of cloud technologies, and why so many organizations pursue it?

[02:17](javascript:;)At Google Cloud, we define digital transformation as when an organization uses new digital technologies, such as public, private, and hybrid

[02:25](javascript:;)cloud platforms to create or modify business processes, culture, and customer experiences to meet the needs of changing business and market dynamics.

[02:36](javascript:;)Organizations choose digital transformation frameworks to foster innovation, generate new revenue streams, , and adapt quickly to market changes and customer needs.

[02:46](javascript:;)Digital transformation helps organizations change how they operate and redefine relationships with their customers, employees, and partners by modernizing their applications, creating new services, and delivering value.

[03:01](javascript:;)For that reason, rapid advances in digital technology are redefining every industry.

[03:06](javascript:;)Many vehicles are now software-driven, and they receive regular updates much like a laptop or phone.

[03:12](javascript:;)In chemistry, big data and artificial intelligence (or AI) facilitates drug discovery.

[03:20](javascript:;)Financial service institutions use cloud’s vast computing power to provide better insights than ever before.

[03:27](javascript:;)With smart analytics that are increasingly embedded in everything and devices that generate exponential amounts of data traditional on-premises computing solutions can no longer suffice.

[03:38](javascript:;)As business innovation becomes more driven by software, the IDC FutureScape report predicts that over 50% of all IT spending will go toward digital transformation and innovation by 2024.

[03:50](javascript:;)In fact, IDC also predicts that, by 2025, more than 90% of new enterprise apps will have AI embedded within them.

[04:01](javascript:;)Leading organizations will rely more heavily on AI to launch new business models, create more customized experiences, and optimize operations to reduce costs.

[04:11](javascript:;)Understanding the scale and power of the cloud is more critical than ever before.

# What is the cloud?