**1. What is cloud computing?**

Welcome to this course on cloud computing! I'm Sara and I will be your instructor for this first chapter.

**2. The importance of the cloud**

In 2018, The Register, a British technology news and opinion website, published an article titled: Amazon is at this point a money-printing cloud machine with a grocery store by the parking lot. This implies that Amazon's multi-billion e-commerce activities are eclipsed by their cloud offering, giving you an indication of the rising importance of the cloud.

**3. The importance of the cloud**

Cloud computing has rapidly developed throughout the years and is slated to grow even further. According to Gartner, global spending on cloud services will reach a whopping $266bn this year, which is about the gross domestic product of Finland or Vietnam.

**4. Cloud computing definition**

But what is cloud computing exactly? Let's start with a definition. Cloud computing is the delivery of technology services - including compute, storage, databases, networking, software, and many more - over the internet with pay-as-you-go pricing. So, rather than owning your own computing infrastructure or data centers, you can rent access to these different services from a cloud service provider, like Amazon AWS, Microsoft Azure, or Google Cloud Platform. Let's look at an example to get a better understanding of how it works.

**5. Use case - hosting a website**

Imagine you're a company and you have a website. Let's use DataCamp as an example.

**6. Users learn on DataCamp**

Learners can navigate to the DataCamp website to take a course.

**7. Free week increases traffic**

DataCamp periodically runs free weeks, during which learners can access all content for free. This attracts more learners than usual to the website.

**8. High traffic leads to slow service**

More learners is great, but with increased traffic can come problems. If not set up correctly, our equipment can't keep up with the demand, and the service slows down

**9. Users stop learning on DataCamp**

which might cause learners to stop using DataCamp. This is obviously not what we want. But what can we do to make sure that this doesn't happen?

**10. Hosting a website using an on-premise server**

We first need to understand how you can host a website. One way is to buy a server and host the website on that server. Think of a server as a very powerful computer that you are able to access. Typically, they don't come with a monitor but you connect into them remotely. Your server will be located on the premises of the organization.

**11. Hosting a website using an on-premise server**

When your success kicks in, and more people start using the website, you'll have to buy or rent new servers to handle that traffic without slowing down the website.

**12. Hosting a website using an on-premise server**

It will take time to set them up and will cost a lot of money. Even though you won't need these servers all the time, only during free week in the example, you still pay for them all the time.

**13. Hosting a website using a cloud server**

The other option is to use cloud computing. This time, you put your website on a cloud server, similar to how you put it on a dedicated server before. Once again, you can access this server remotely. You'll now have access to computing power instantly when you need it.

**14. Hosting a website using a cloud server**

As more people start visiting your website, and you need more power to scale up, you can access more computing power in the cloud, as you need, on-demand.

**15. Hosting a website using a cloud server**

If your website traffic comes back down, you can easily release those servers back to the cloud.

**16. Hosting a website using a cloud server**

Billing works similar to how you pay for electricity or gas. When you use the cloud service, the meter starts running, and when you're done you turn it off and the meter stops.

**17. Cloud computing vs. on-premise**

Let's contrast these two approaches. Cloud is more scalable as you can easily add or release cloud resources. Compared to on-premise it also has a fast set-up speed. Lastly, the billing is more flexible in the cloud since you only pay for what you use. However, an important note to make is that the best approach depends on your use case. There are situations in which an on-premise server is cheaper or possibly more secure. More on that in the next lesson.

**18. Other uses of cloud computing**

You can do more with the cloud than host a website on a server. You could store, back up, and recover data, create cloud-native applications, stream audio and video, deliver software on demand, analyze data, embed artificial intelligence models, and much more.

**19. Cloud computing companies**

Many companies make use of cloud technologies to grow their business and meet their goals.

**20. Let's practice!**

Let's see how well you understand cloud computing. Time for exercises!