**TYING IT ALL TOGETHER**

**1. Tying it all together**

00:00 - 00:07

We have covered a lot of content related to DevOps, and now it is time to remember everything and wrap up.

**2. What is DevOps after all?**

00:07 - 00:35

DevOps is a combination of tools, technologies, and cultural elements that enables better software development. It has many implementations. When applied to Data Engineering, it is called DataOps; when applied to Machine Learning Engineering, it is called MLOps. DevOps has one general goal for all its implementations: ensuring high productivity, high quality, and managing costs.

**3. What is DevOps about?**

00:35 - 01:12

There are certain concepts about DevOps that revolutionize the organizations that adopt DevOps. DevOps forms organizations into autonomous teams. These autonomous teams have people with development and operations backgrounds. These teams are responsible for specific parts of the software, and they develop and run those parts. DevOps requires automation and incorporates testing and experimentation into change management. Testing and experimentation ensure that product changes are secure and well-liked by the customers.

**4. Why is DevOps necessary?**

01:12 - 01:45

DevOps is necessary for a lot of reasons! The main reason is that it is proven to be very efficient compared to traditional software change management methods. Time is money, and DevOps helps boost productivity by bringing different specialties together. It boosts productivity because it brings different specialties together. Also, it automates testing and encourages experimentation and observability, which is necessary for reliability and product quality.

**5. When is DevOps applicable?**

01:45 - 01:58

DevOps principles are applicable most of the time, and it makes sense to adopt them! It is vital for large organizations, because they have many different teams and optimizing productivity and quality mean a lot!

**6. What are the components of DevOps?**

01:58 - 02:19

DevOps is comprised of Development and Operations. Development is usually considered at the left side of the visual. Operations refer to deploying and maintaining the software to make it available for users. DevOps introduces the CI/CD pipelines in between to help automate steps from development to operations.

**7. Which tools are used for DevOps?**

02:19 - 03:05

All of the DevOps components are supported by specialized tools and software. There are many alternatives to the tools listed here on each component. For requirements, we need interactions with business and other stakeholders; therefore, we use tools like Jira and slack. For the design, development, and testing phases, we need tools to help write, build and test the code. For this purpose, we need at least a version control software like git and build technology like Maven. We have Jenkins to orchestrate our CI/CD pipeline. For deployment, we have Docker and Kubernetes, and we can use Kafka as our database. For Monitoring, we can use SignalFx and Appdynamics.

**8. Let's practice!**

03:05 - 03:12

Now let's get into exercises and put our master skills into use.