Kubernetes-docker-

Container Implementation PPT PowerPoint Presentation Slide Templates

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01

Introduction of Kubernetes

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What is Container?

The slide provides a brief overview of containers

Containers

area unit an answer to the matter of a way to get code to run dependably once touched fro m one computing surroundings to a different. this might be from a developer's portable computer to a check surroundings, from a staging surroundings into production, and maybe from a physical machine in an exceedingly information center to a virtual machine in an exceedingly non-public or public cloud.

Why you need Containers?

This slide highlights important factors why companies needs containers

Faster Time To Market

Newer applications and services are what keep your competitive edge.
Organizations are able to triple their speed (300 percent) to deliver new services with development and operational gracefulness.
Containerization breaks down barriers for DevOps groups to accelerate readying times and frequency.

Gain Freedom Of Choice

Package, ship, and run applications on any public or non-public cloud.

IT Infrastructure Reduction

Reduce your prices 40 % by increasing your application work density, recovering utilization of your server reason density and reducing package licensing prices.

IT Operational Potency

Gain 40 % operational efficiency by streamlining and automating the management of various applications and infrastructure into one operational model.

Are Containers the Same Thing as Microservices?

Once you begin diving into containers, it’s not possible to avoid reading concerning microservices. (No, microservices don't seem to be those little cars you step within the dark. Those square measure small Machines. perhaps I’m Associate in Nursingalysis|qualitative analysis} myself?) Microservices is an style of architecture. A microservices design structures AN application by victimization as a group of loosely coupled services, that deliver specific business capabilities. Containers facilitate build it happen.

Microservices Architecture

This slide is to highlight the Microservices Architecture of Containers

Applications

Microservice Architecture E-Commerce Application

Container Architecture

This slide highlights the core Architecture of Containers and Applications hosted to the Docker Engine.

Microservices Use Cases

The slide covers the major microservice use cases such as user info microservices, most trending use cases and recommendations microservices

What is Kubernetes?

The slide shows the overview of Kubernetes

Kubernetes

Kubernetes, designed by Google and currently maintained by the Cloud Native Computing Foundation, is an open-source container-orchestration system. It helps in automating application deployment, scaling, and management.

Before and After Kubernetes

The slide covers the Architecture of before and after Kubernetes introduction

Before

After

Why Organization Should use Kubernetes?

The slide highlights the core reasons why organization should opt Kubernetes

01 Better Management through Modularity

02 IT Cost Optimization

03 Improved Scalability and Availability

04 Multi-cloud (and Hybrid Cloud) Flexibility

05 Effective Migration to the Cloud

What can Kubernetes do?

Instrumentality Deployments and Rollout Management

Describe your containers and the way several you wish with a “Deployment.” Kubernetes can keep those containers running and handle deploying changes (such as change the image or dynamical atmosphere variables) with a “rollout.” you'll pause, resume, and rollback changes as you prefer.

Resource Bin Packing

You'll declare minimum and most figure resources (CPU and memory) for your containers. Kubernetes can slot your containers into wherever ever they match. This will increase your figure potency and ultimately lowers prices.

Inbuilt Service Discovery and Autoscaling

Kubernetes will mechanically expose your containers to the web or alternative containers within the cluster. It mechanically load balances traffic across matching containers. Kubernetes supports service discovery via atmosphere variables and DNS, out of the box. you'll conjointly tack together CPU-based autoscaling for containers for inflated resource utilization.

Heterogeneous Clusters

Kubernetes runs anyplace. you'll build your Kubernetes cluster for a combination of virtual machines (VMs) running the cloud, on-premises, or blank metal in your datacenter. merely opt for the composition in keeping with your needs.

Persistent Storage

Kubernetes includes support for persistent storage connected to homeless application containers. there's support for Amazon net Services east by south, Google Cloud Platform persistent disks, and many, many more.

High Convenience Options

Kubernetes is planet scale. this needs special attention to high-availability options like multi-master or cluster federation. Cluster federation permits linking clusters along in order that if one cluster goes down, containers will mechanically move to a different cluster. Grammar Check Re-write Again Next Demo Video (Paraphrasing

Roadmap to Install Kubernetes in your Organisation

The slide highlights the roadmap to install Kubernetes in the organization.

Features of Kubernetes

Kubernetes Architecture

Kubernetes vs Docker Swarm

The slide provides the key difference between Kubernetes and Docker Swarm

Docker Swarm	Vs	Kubernetes
No Auto Scaling	01	Auto Scaling
Good Community	02	Great Active Community
Easy to Start a Cluster	03	Difficult to Start a Cluster
Limited to the Docker Api's Capabilities	04	Can Overcome Constraints of Docker and Docker API
Does not have as Much Experience with Production Deployments at Scale	05	Deployed at Scale more often among Organisations

Kubernetes 7 use Cases

The slide contains the important 7 use cases of Kubernetes

Simple App
Learning how to get your app up and running by deploying it on a Kubernetes cluster

Microservices
Orchestrating complicated apps based on a microservice architecture with many components

Lift and Shift
Facilitating the moving of on-prem apps to the cloud

Cloud Native Network Functions
Managing containers with encapsulated network functions(CNF initiatives)

Machine Learning
Managing machine learning workflows to deploy faster AI-based apps

Heavy Computing
Enabling computing-heavy tasks

CI/CD
CI/CD tasks are easier to perform with Kubernetes

Advantage of Kubernetes

The slide highlights the major advantages of Kubernetes

- Using Kubernetes and its Brobdingnagian Scheme will improve your productivity
- Kubernetes and a cloud-native technical school stack attracts talent
- Kubernetes could be a future proof answer
- Kubernetes helps to form your application run additional stable
- Kubernetes is cheaper than its alternatives
- Orchestrate containers on multiple hosts

30-60-90 Days Plan in Kubernetes

The slide highlights the 30-60-90 Days plan to implement Kubernetes in the Organizations

30 Days

- Starting out with containers and container orchestration tools
- Install Kubernetes
- Load balancing with Kubernetes
- Two-step load-balancer setup
- Configuring load balancing

60 Days

- Implement Blue-green deployments in Kubernetes
- Making the deployments automatic
- Know your resource constraints

90 Days

- Enable Logging
- Start Monitoring
- Fixing Issues

02

Kubernetes Component

- What is Kubelet?
- What is Kubectl ?
- What is Kubeadm?

Kubernetes Components

The slide highlights the key component of Kubernetes

What is Kubelet?

The slide shows the overview of Kubelet and explains its functionality

The kubelet is that the primary "node agent" that runs on every node.

The kubelet works in terms of a PodSpec. A PodSpec may be a YAML or JSON object that describes a pod. The kubelet takes a group of PodSpecs that ar provided through numerous mechanisms (primarily through the apiserver) and ensures that the containers delineate in those PodSpecs ar running and healthy. The kubelet doesn't manage containers that weren't created by Kubernetes

What is Kubectl?

Kubectl is a instruction tool for controlling Kubernetes clusters. Kubectl looks for a file named config within the $HOME/. ... For details regarding every command, together with all the supported flags and subcommands, see the kubectl reference documentation.

What is Kubeadm?

Kubeadm could be a tool designed to produce kubeadm init and kubeadm be part of as best-practice “fast paths” for making Kubernetes clusters. Kubeadm performs the actions necessary to urge a minimum viable cluster up and running.

(1) Kubeadm init

(2) Kubeadm join

03

Nodes in Kubernetes

- What is node in Kubernetes?
- Master node
- Worker node

What is Nodes in Kubernetes?

The slide provides the overview of nodes in Kubernetes

A Node in Kubernetes Cluster is the main Worker Machine

Node in the Kubernetes System is Managed by the Master

They are also known as Minions

Node Provide All The Necessary Services to Run Pods

It Could Run on a Physical Machine or a VM

Master Nodes in Kubernetes

The slide highlights overview of Master node in Kubernetes and its functionality.

A master node

is a node which controls and manages a group of worker nodes (workloads runtime) and resembles a cluster in Kubernetes. ... All external communication to the cluster is via the API-Server. Kube-Controller-Manager, that runs a group of controllers for the running cluster.

Worker/Slave Nodes

The slide highlights overview of worker node in Kubernetes and its functionality.

It is a physical server otherwise you will say a VM that runs the applications victimization Pods (a pod programing unit) that is controlled by the master node.

On a physical server (worker/slave node), pods area unit scheduled.

For accessing the applications from the external world, we have a tendency to connect with nodes.

04

Kubernetes Development Process

- What is blue green deployment?
- How to automate the deployment?

What is Blue Green Deployment

The slide explains what is blue green deployment and its functionality

- Blue-green deployment is a method that reduces period and risk by running 2 identical production environments called Blue and Green.
- At any time, just one of the environments is live, with the live atmosphere serving all production traffic.
- For this instance, Blue is presently live and Green is idle.

How to Automate the Deployment?

The slide highlights how to automate the deployment process in the organization

Container Deployment Pipeline

05

Networking in Kubernetes

- Kubernetes networking model
- Ingress networking in Kubernetes

Kubernetes Networking Model

Ingress Networking in Kubernetes

The slide explains the Ingress Networking in Kubernetes and its working

06

Security Measures in Kubernetes

- Best security measures in Kubernetes

Best Security Measures in Kubernetes

The slide consist of best Security measure which needs to follow in Kubernetes

Icons Slide for Kubernetes-docker-Container Implementation

Additional Slides

Our Mission

01

Vision

This slide is 100% editable. Adapt it to your needs and capture your audience's attention.

02

Mission

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03

Goal

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About Us

Our Company

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Values Client

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Premium Services

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Our Team

Name Here

Designation

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Name Here

Designation

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Name Here

Designation

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Comparison

Male

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Female

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Our Goal

Goal 01
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Goal 02
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Goal 03
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Timeline

Start

2016

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2017

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2018

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2019

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2020

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End

Roadmap

Start

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End

Thank You

Address
street number, city, state

Phone Number
0123456789

Email address
emailaddress123@gmail.com