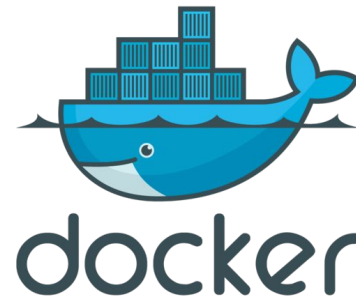
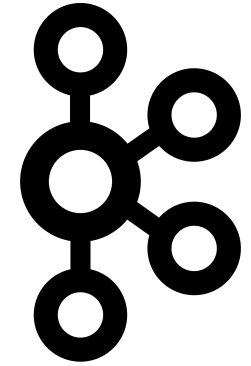
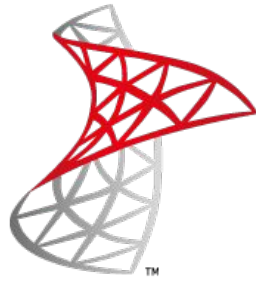
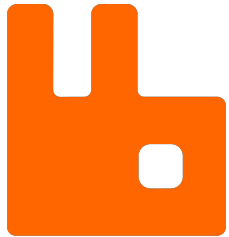
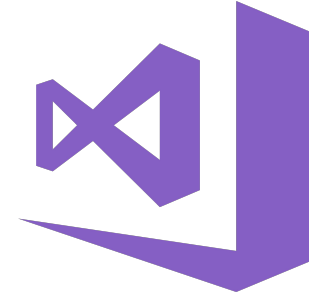
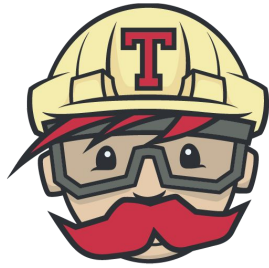


Разворачиваем ASP.NET Core приложение в Kubernetes

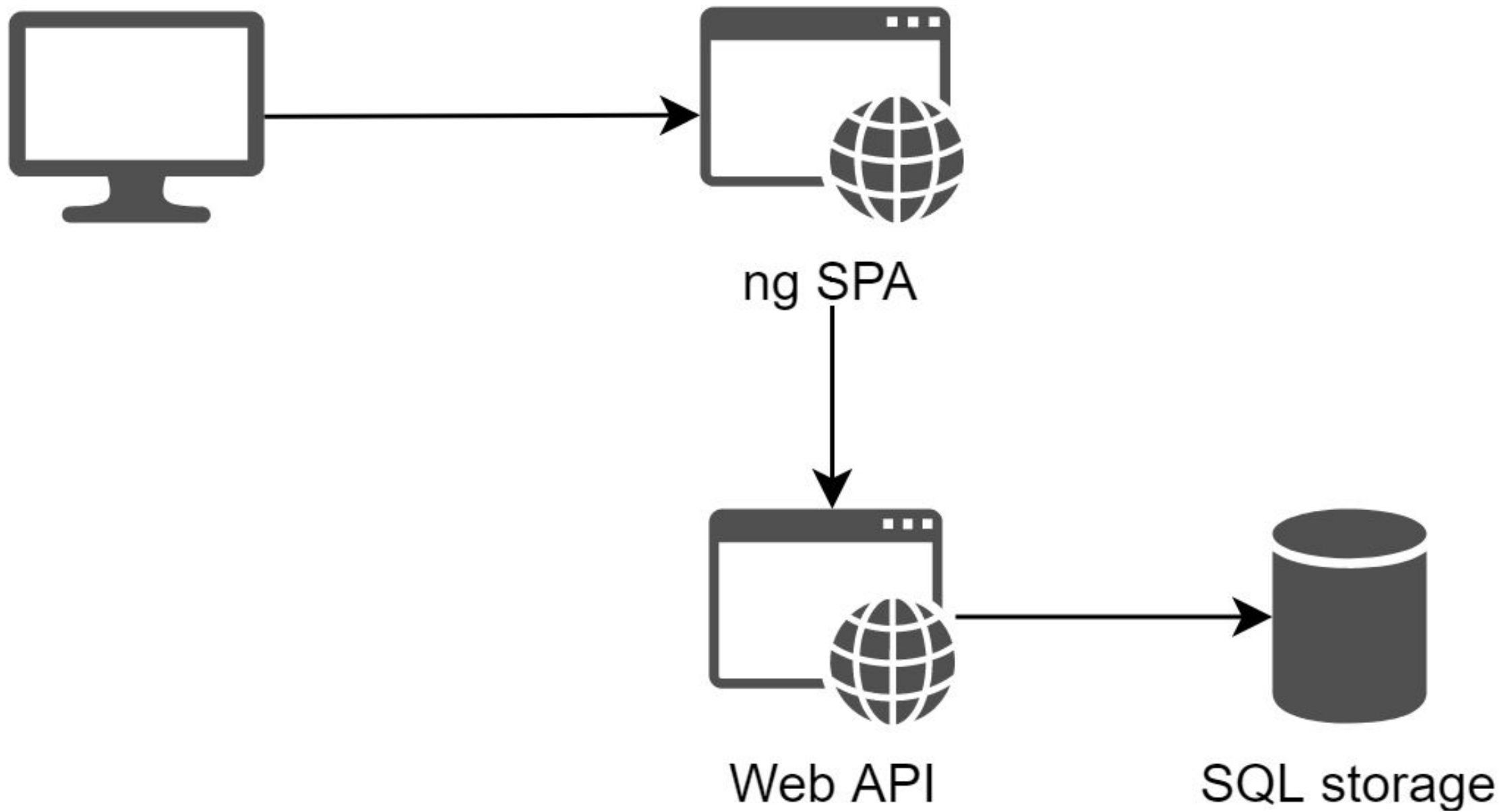
Доронкин Даниил

ddydeveloper@gmail.com



План обсуждения

- Docker, k8s
- Docker desktop, Minikube, GKE
- Configuration files
- CI/CD
- Helm
- Deploy to production



12345678910111213141515					
Name	Priority	Added	Date to complete	Time to complete	Actions
Internal task #2	Medium	19/01/2019 07:50:53	26/01/2019 03:33:06	Completed	
Internal task #3	Low	19/01/2019 07:50:53	20/01/2019 03:47:37	Completed	
Internal task #4	High	19/01/2019 07:50:53	23/01/2019 01:34:21	Completed	
Internal task #5	High	19/01/2019 07:50:53	25/01/2019 03:26:19	More than 21 weeks expired	
Internal task #6	Highest	19/01/2019 07:50:53	24/01/2019 08:32:04	Completed	
Internal task #7	Minor	19/01/2019 07:50:53	23/01/2019 03:58:14	More than 21 weeks expired	
Internal task #8	Medium	19/01/2019 07:50:53	21/01/2019 05:27:05	More than 21 weeks expired	
Internal task #9	Minor	19/01/2019 07:50:53	21/01/2019 05:39:10	Completed	
Internal task #10	Blocker	19/01/2019 07:50:53	27/01/2019 04:54:13	More than 21 weeks	

Task details

Name:

Internal task #2

Description:

An internal task for the test purposes only, can be completed, deleted or modified

Status:

Completed

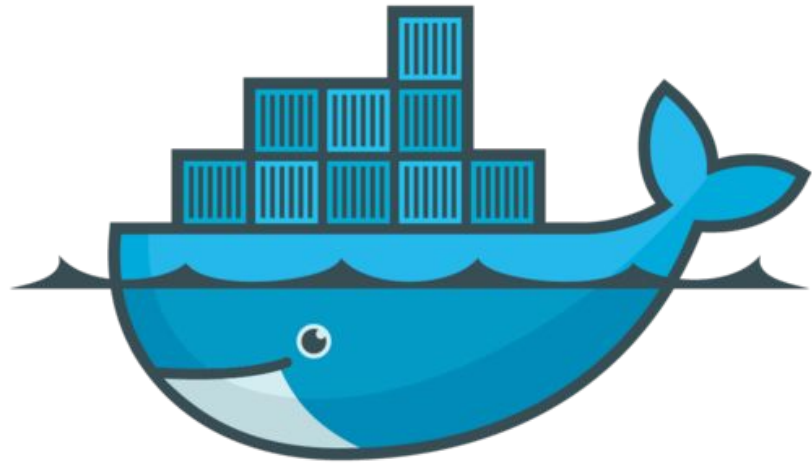
Priority:

Medium

Added:

19/01/2019 07:53

5



docker

Docker

Docker image



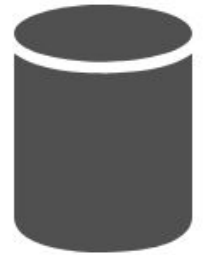
ng SPA

Docker image



Web API

Docker image



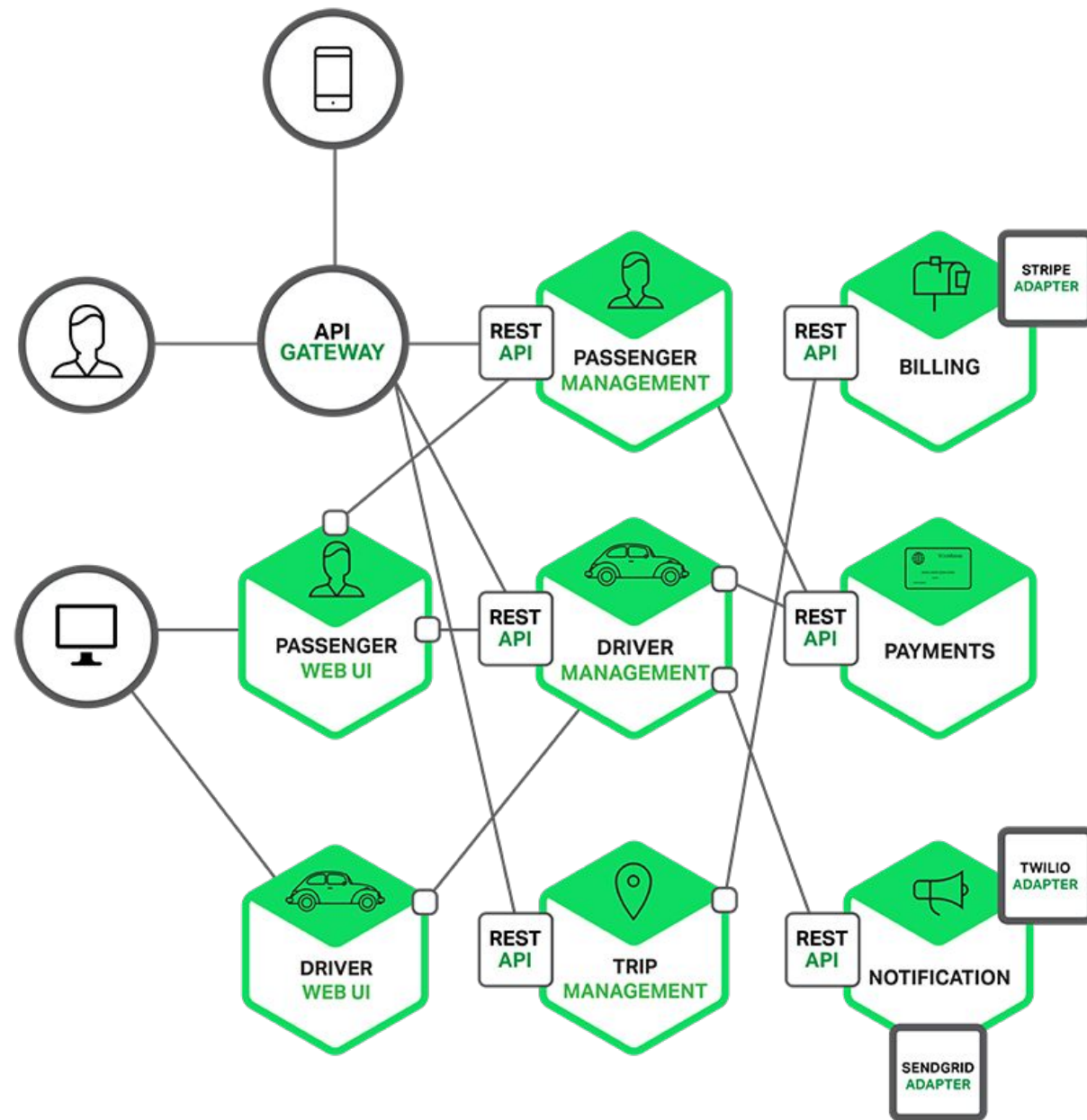
SQL storage

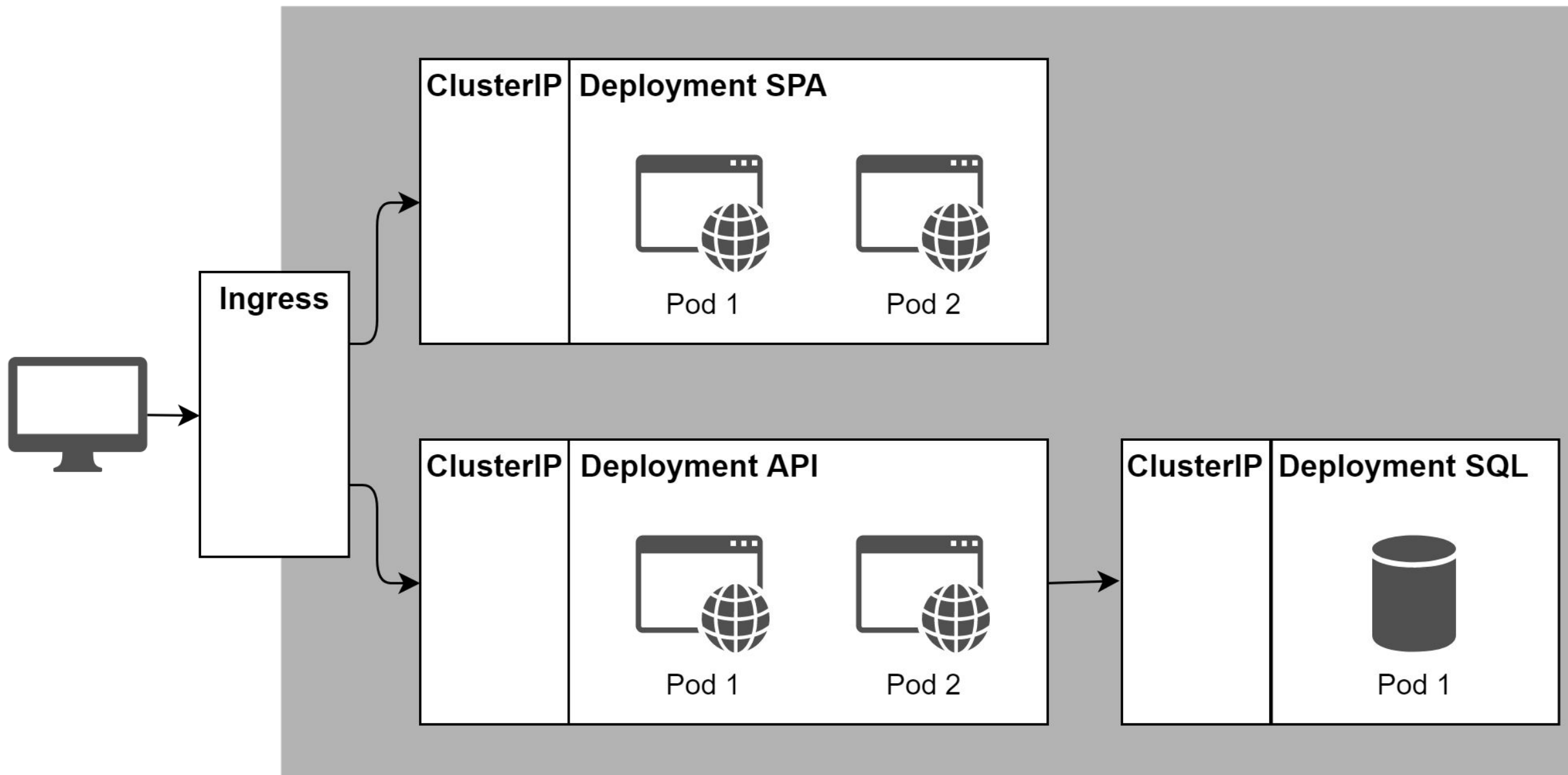


k8s is an open-source system for **automating deployment, scaling, and management** of containerized applications

Зачем

- Доступность
- Масштабируемость
- Балансировка
- Мониторинг
- Хранилища





Kubernetes

- Docker desktop, on-premise, [minikube](#)
- [Google K8S Engine](#), [Azure KS](#), [Amazon EKS](#)
- kubectl
- <https://kubernetes.io/docs/home/>



Контейнеры

Pod

Один контейнер
(development)

ReplicaSet

Масштабируемый
набор реплик в
кластере

Deployment

Набор реплик с
политикой
развертывания

Сервисы

ClusterIP

Коммуникации
внутри кластера

NodePort

Доступ к сервису
извне
(development)

Ingress

Умный
маршрутизатор
(production)

Конфигурация

Persistent VolumeClaim

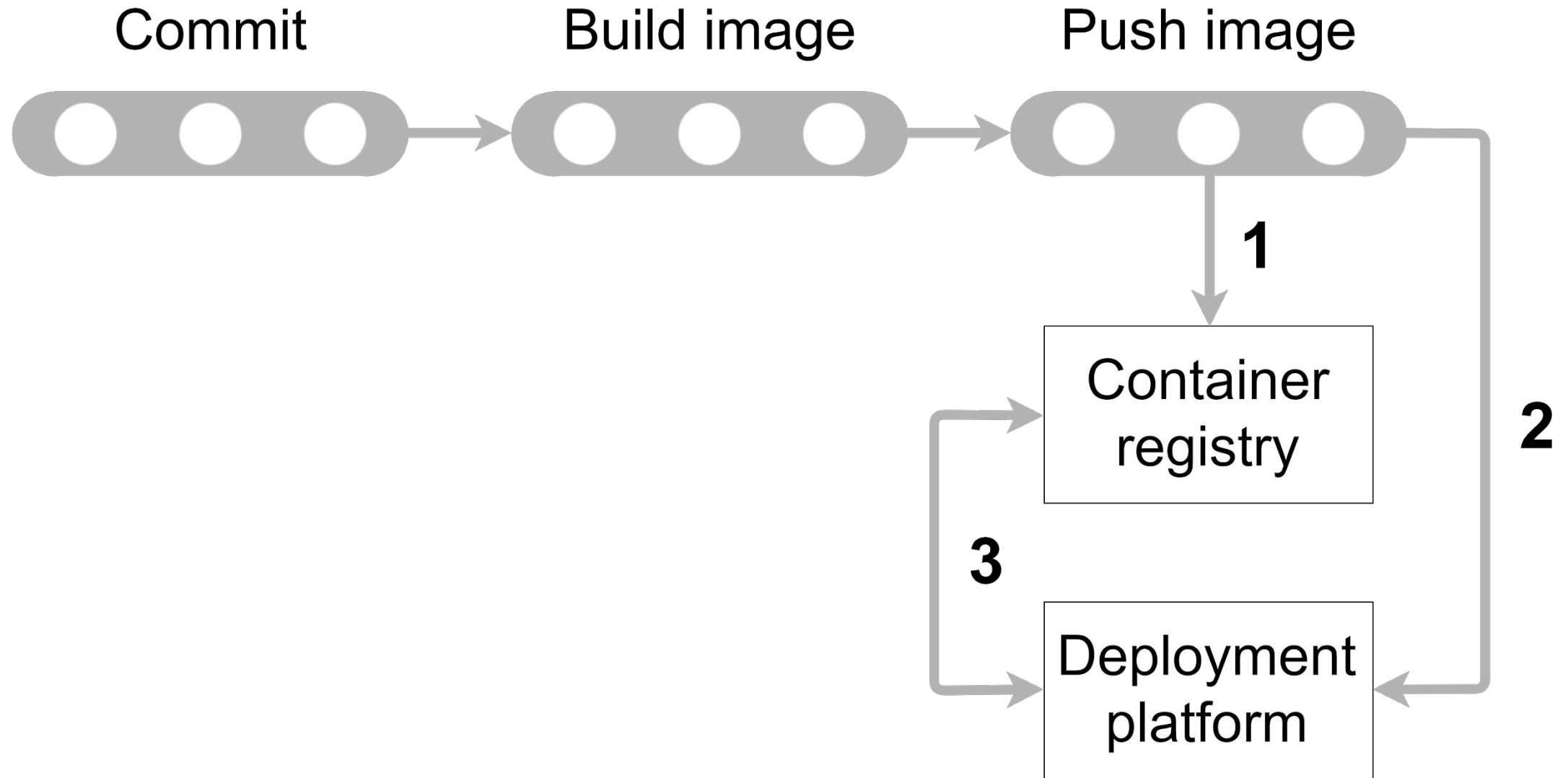
Доступ к данным
на постоянной
основе

ConfigMap

Хранение данных
конфигурации

Secret

Хранения
секретных данных









Let's Encrypt

Проблемы

- Много DevOps задач
- Обновление GCP
- Версионирование docker images

<https://github.com/kubernetes/kubernetes/issues/33664>

- SignalR/sticky sessions

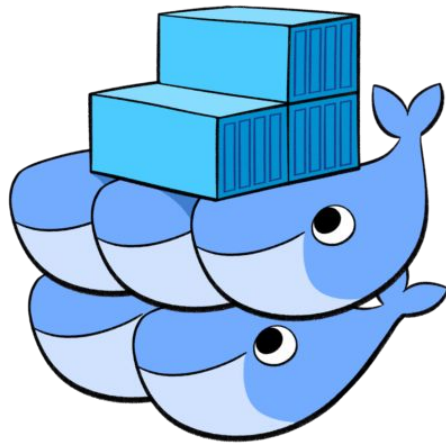
<https://github.com/aspnet/AspNetCore.Docs/issues/7450>

k8s is an open-source system for automating deployment, scaling, and management of containerized applications

Преимущества

- Декларативный стиль
- Минимальный vendor lock-in
- Богатый API из коробки
- Экосистема и сообщество
- Разработка Google на базе Borg

Альтернативы



MESOS

- <https://stackshare.io/stackups/docker-compose-vs-docker-swarm-vs-kubernetes>
- <https://hackernoon.com/kubernetes-vs-docker-swarm-a-comprehensive-comparison-73058543771e>

Что дальше

- <https://console.cloud.google.com>
- <https://istio.io/>
- <https://dotnext-piter.ru/2019/spb/talks/sqznrz529yu5erwoq6k1q/>
- <https://kubernetes.io/docs/tutorials/stateful-application/basic-stateful-set/>
- <https://kubernetes.io/docs/tutorials/kubernetes-basics/update/>

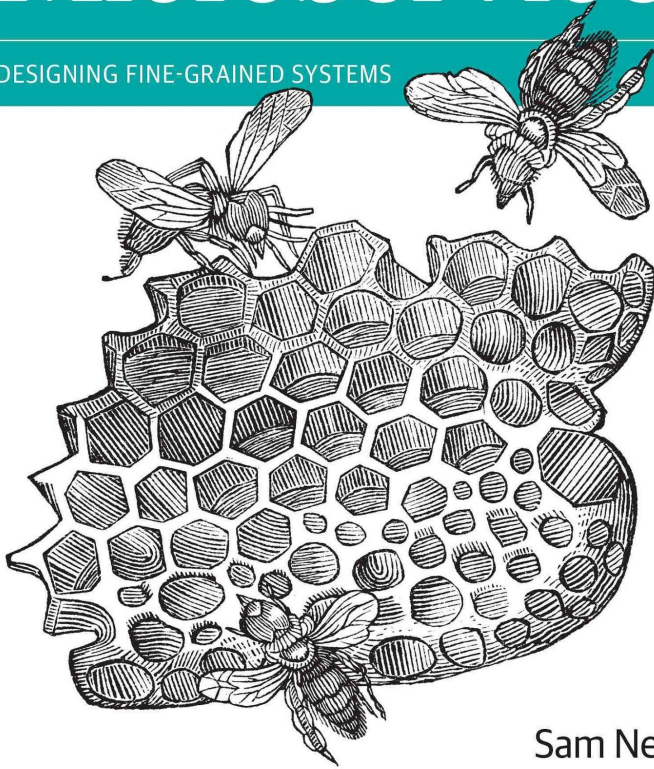
ИСТОЧНИКИ

- <https://kubernetes.io/docs/home/>
- <https://kubernetes.slack.com>
- <https://www.udemy.com/docker-and-kubernetes-the-complete-guide>
- <https://www.youtube.com/channel/UCjmwHCZ-qh3ro7hHTQhqYQg>
- <https://github.com/ddydeveloper/ng-task-management-system/tree/k8s>

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Sam Newman

<https://www.amazon.com/Building-Microservices-Designing-Fine-Grained-Systems/dp/1491950358>

Благодарю за внимание

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