



B A N Z A I C L O U D

TRY PIPELINE **FOR FREE**

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# Banzai Cloud PKE

Pipeline  
Kubernetes  
Engine

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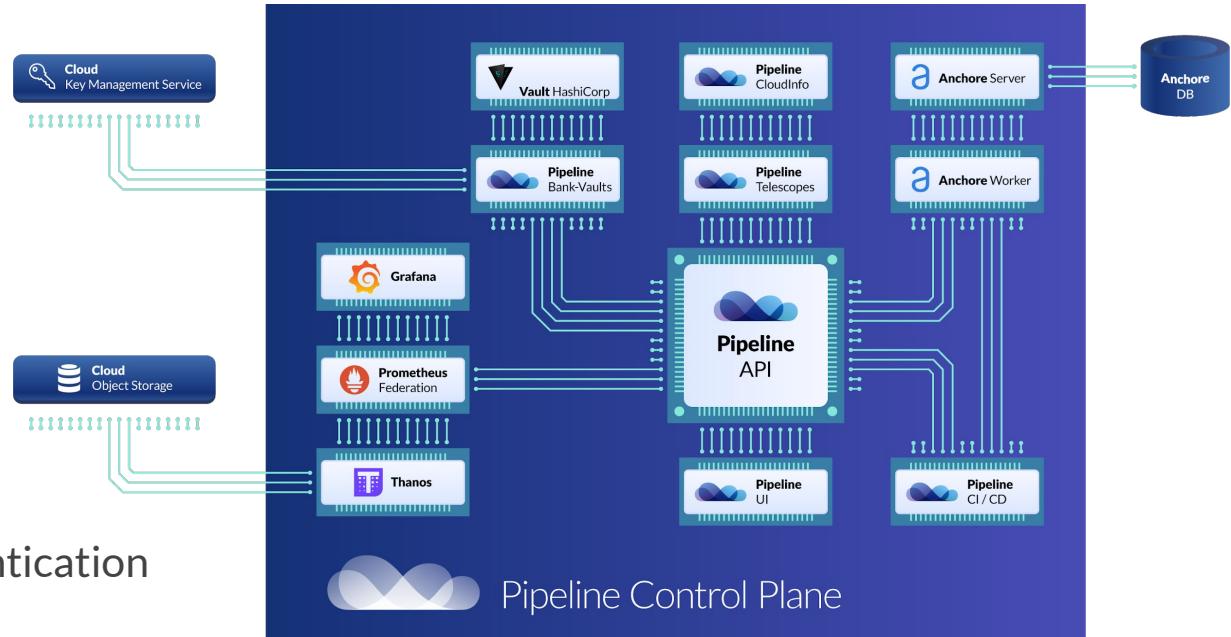
- What do you mean when you hear the word “distribution”?
  - Linux distribution
  - Kubernetes distribution
- Kubernetes distribution: anything from an installer script to a complete cloud offering.
- Difference is in the integration and the ecosystem provided — not how the apiserver is built.
- At Banzai Cloud, distribution is
  - a complete end-to-end solution
  - based on Kubernetes
  - with all the necessary tools
  - which support application development from source code to production.

- We need a Kubernetes environment that can:
  - Be as close as possible to mainline Kubernetes
  - Run in the Cloud and On-Premises
  - Support custom plugins / features (including alpha)
  - Operate in a Hybrid Cloud setup (network)
  - Give full access to all components (including api server, network, etcd, etc)
  - Run in a single-node setup for development as well
  - Support existing Customer infrastructure (hardware, virtualization, storage, etc)
  - Integrate Enterprise authentication and authorization (LDAP, AD, SAML...)
  - Be compliant with the corporate standards (e.g. custom machine images)

- Kubernetes version
  - Amazon EKS: 1.10, 1.11
  - Azure AKS: 1.8.14 - 1.11.5
  - Google GKE: 1.10.6 - 1.11.6
  - Oracle OKE: 1.10.11, 1.11.5
  - Alibaba ACK: 1.11.5
- Custom integration and Alpha APIs
- Custom networking is possible
- Authentication and Authorization
- Security and bug fixes are on time
- Enforced multi-zone clusters with persistent volume limitations (PVC attach errors)
- With provisioned Kubernetes same abstraction works on all providers (multi-cloud)

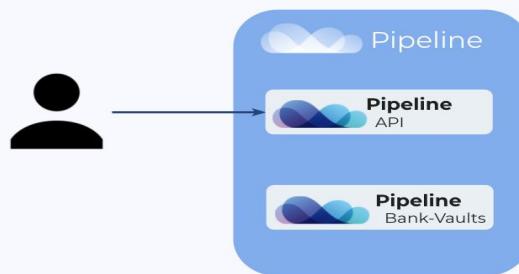
Kubernetes version	Release month	End-of-life-month
v1.6.x	March 2017	December 2017
v1.7.x	June 2017	March 2018
v1.8.x	September 2017	June 2018
v1.9.x	December 2017	September 2018
v1.10.x	March 2018	December 2018
v1.11.x	June 2018	March 2019
v1.12.x	September 2018	June 2019
v1.13.x	December 2018	September 2019

- The Control Plane
- Secret store
- Security scans
- Monitoring
- Logging
- Service mesh
- Spotguides
- Authorization and Authentication
- CI/CD
- Backup / Disaster Recovery
- Secure in-cluster communication with TLS
- Scheduler for cost effectiveness

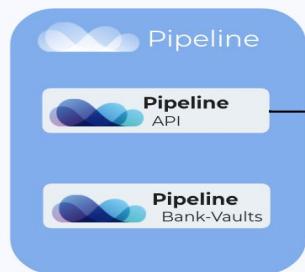


- Prebuilt images (Packer)
  - Speeds up deployment
  - Supports different platforms (like bare-metal, EC2, or vSphere)
  - Initially: CentOS 7 – Ubuntu LTS comes
- Management tool deployed to all machines
  - Installs components for Kubernetes based on roles (i.e. cluster control plane/node)
  - Uses Pipeline as a metadata service
    - Technical parameters (networking, versions, etc)
    - Certificate management
    - Authenticated communication
  - Integrates with existing automated configuration management systems

## PKE deployment on AWS



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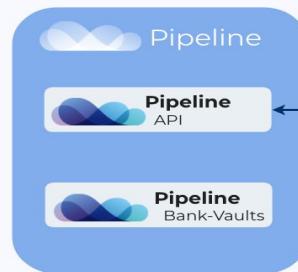
Create  
Master ASG



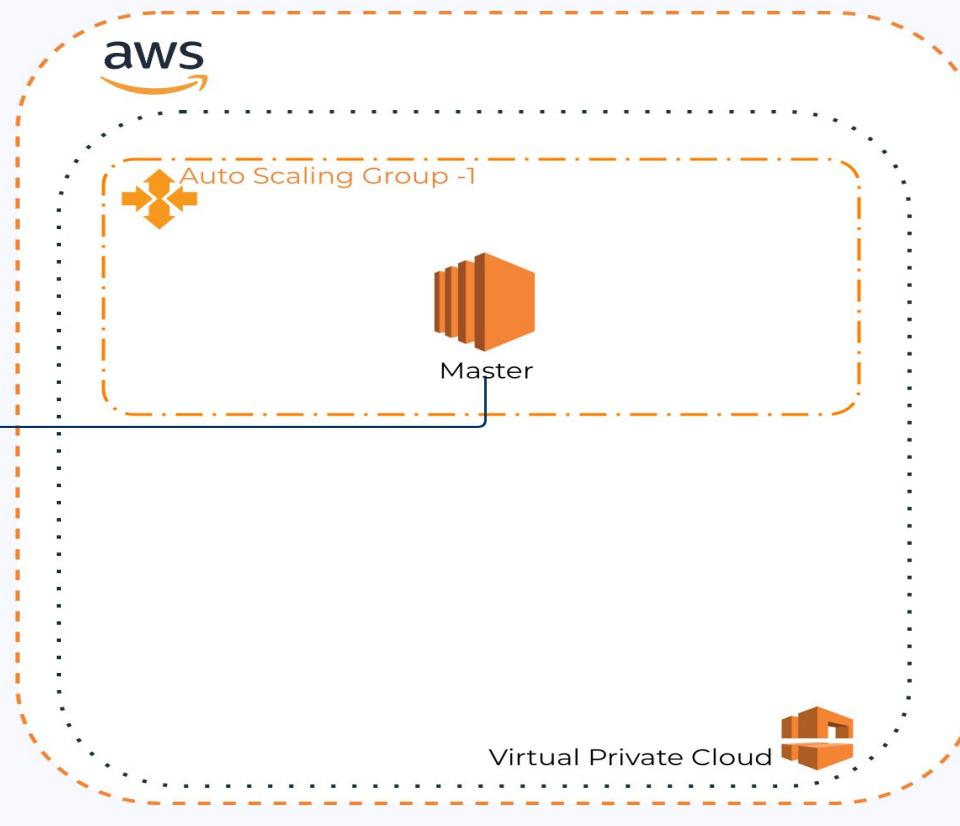
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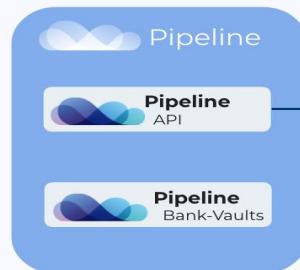
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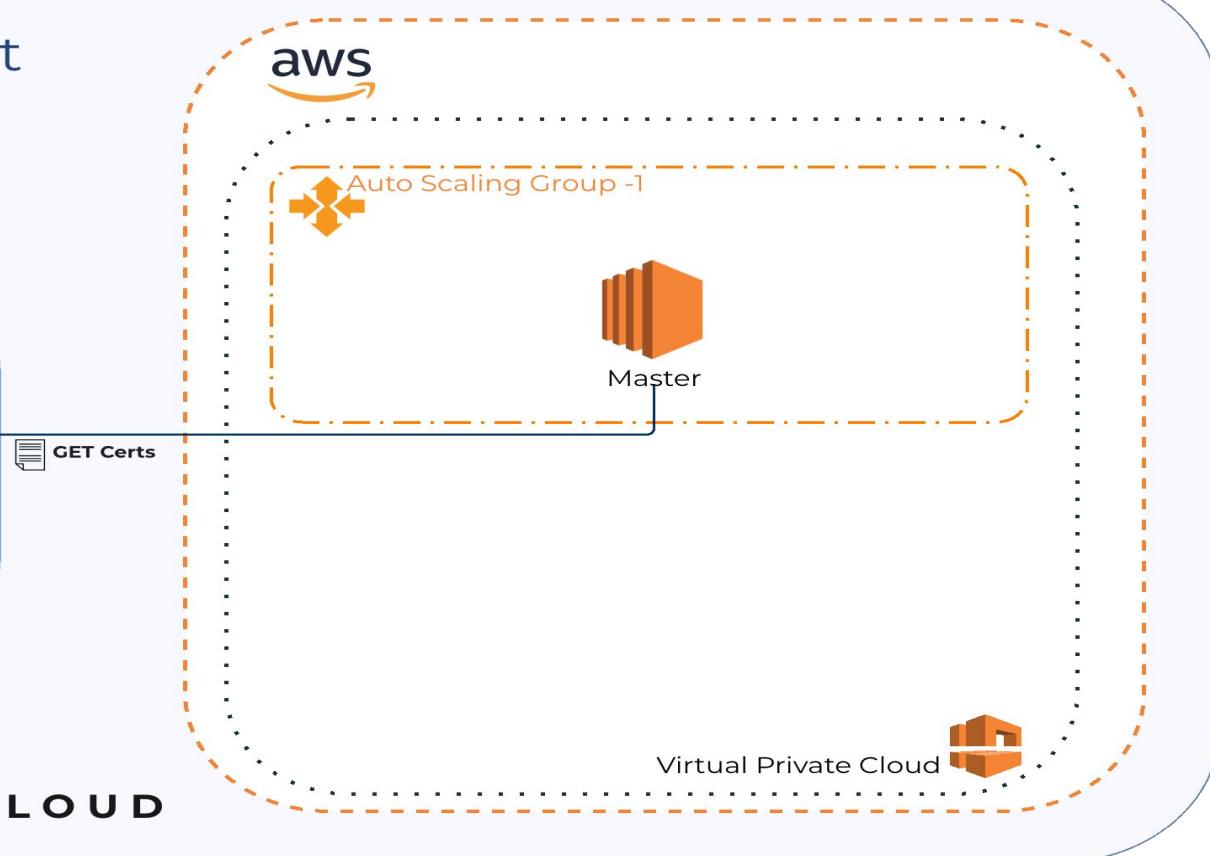
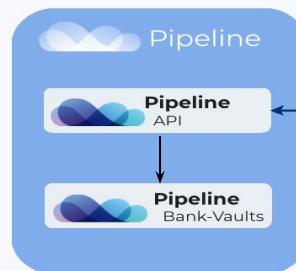
GET Cluster



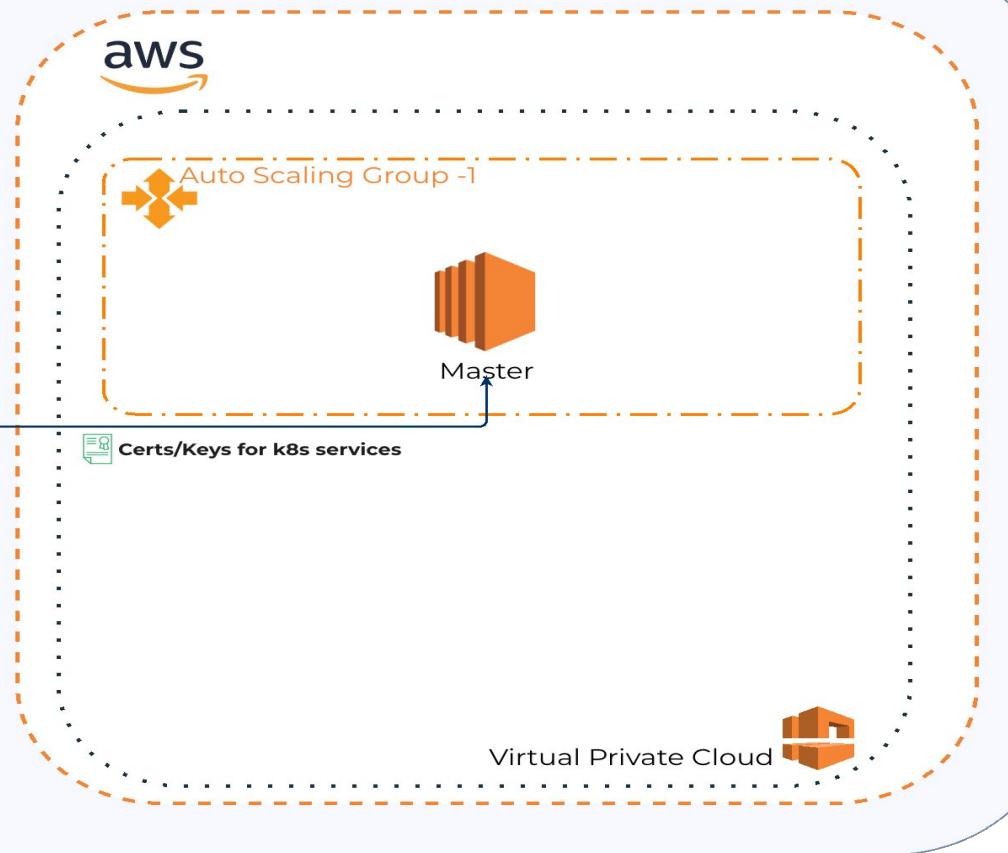
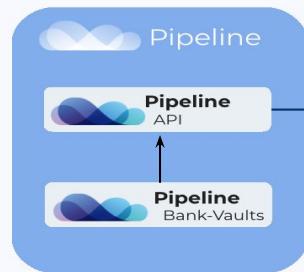
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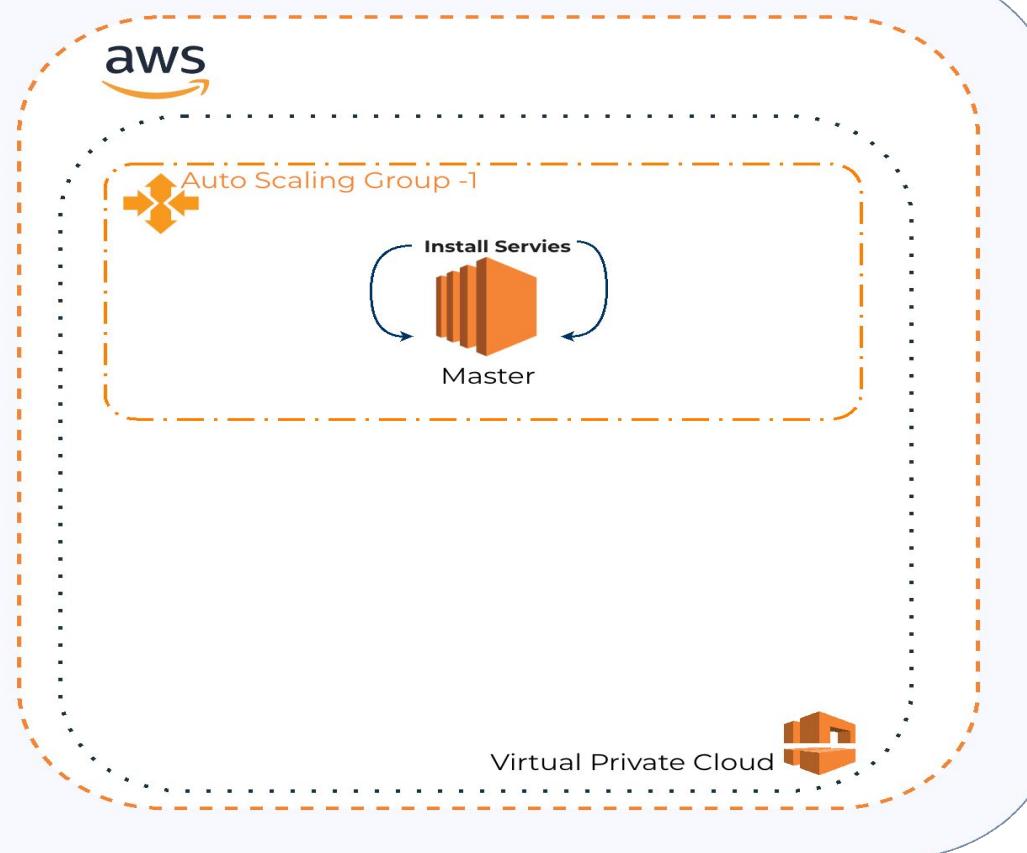
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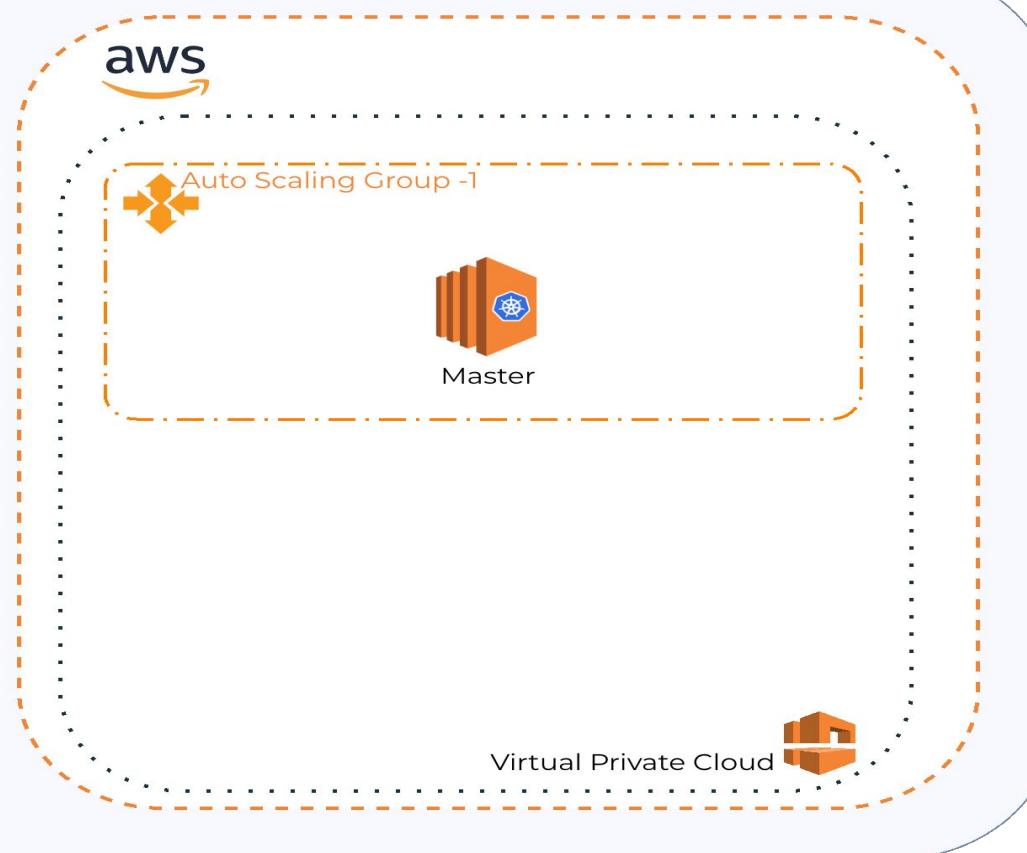
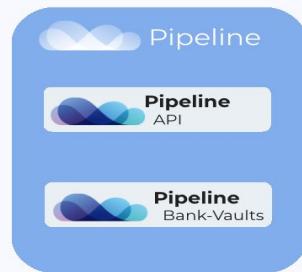
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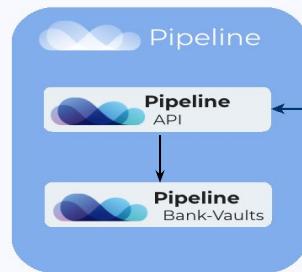
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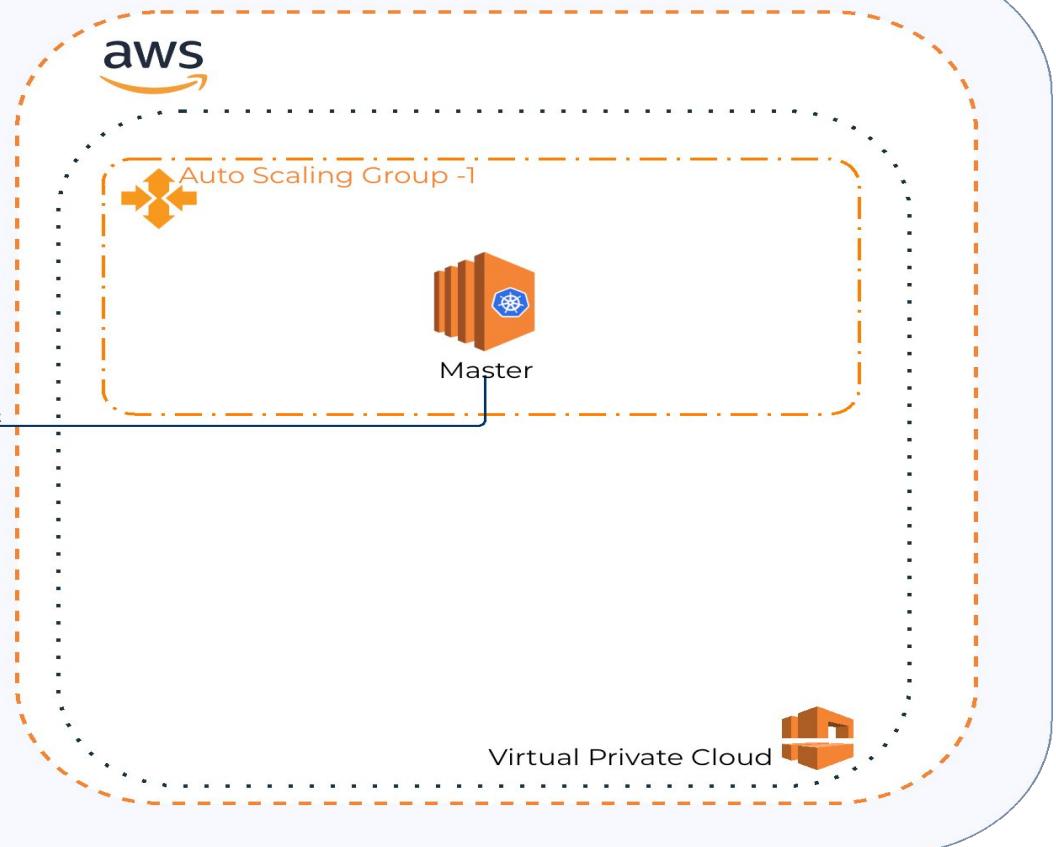
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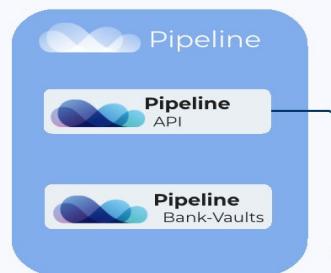
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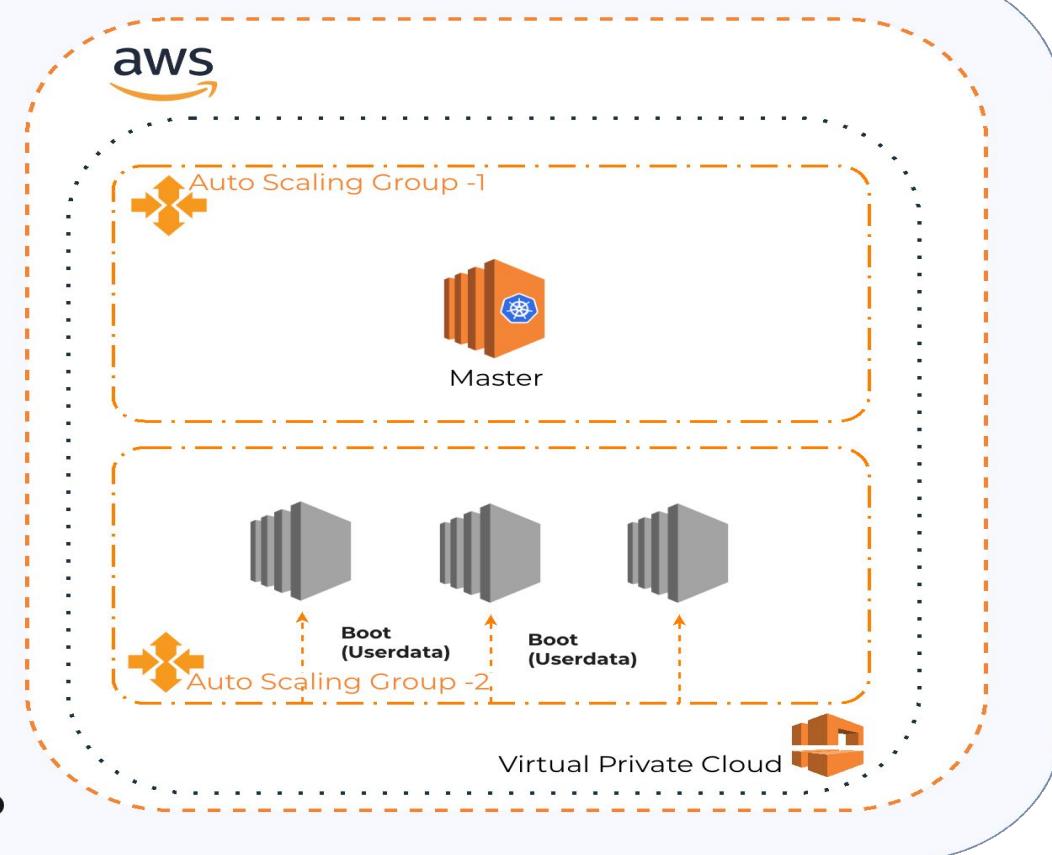
Create Secret  
kubeconfig



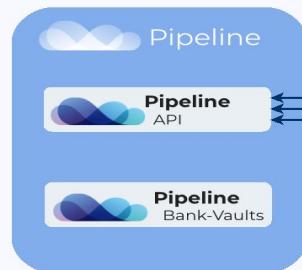
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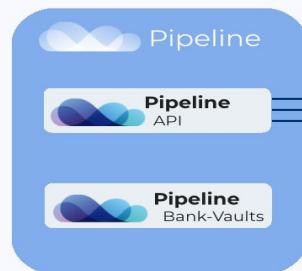
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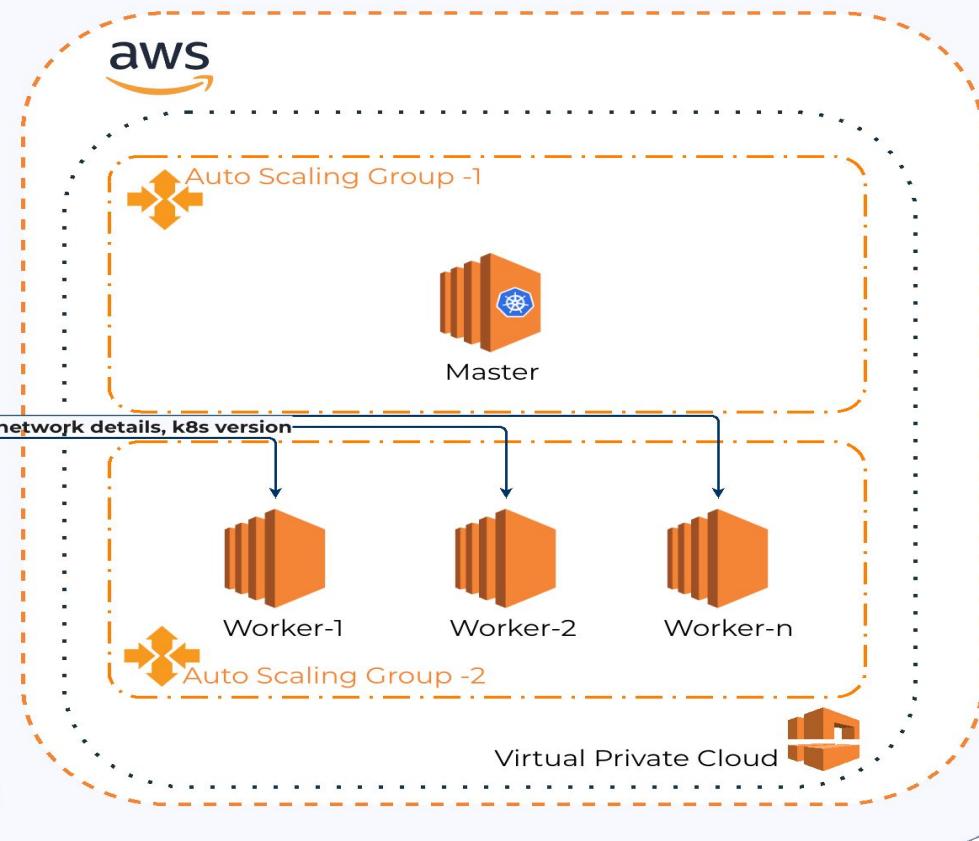
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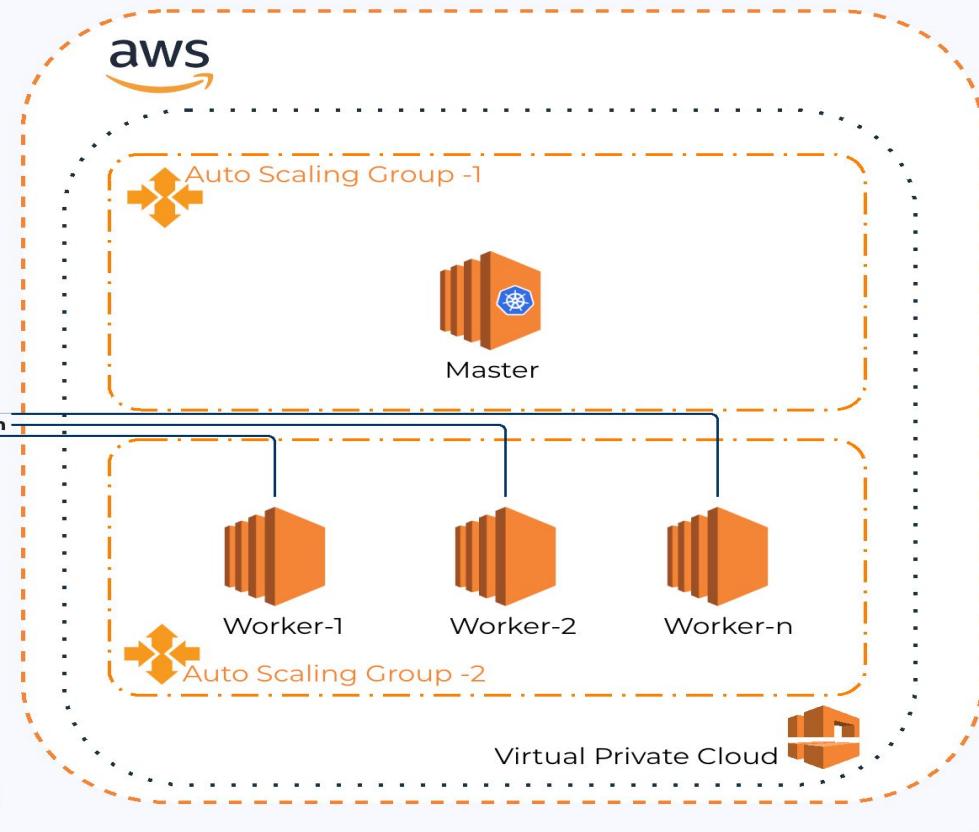
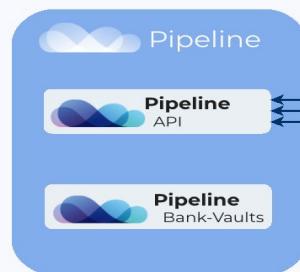
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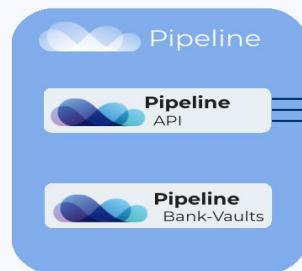
nodepools, network details, k8s version



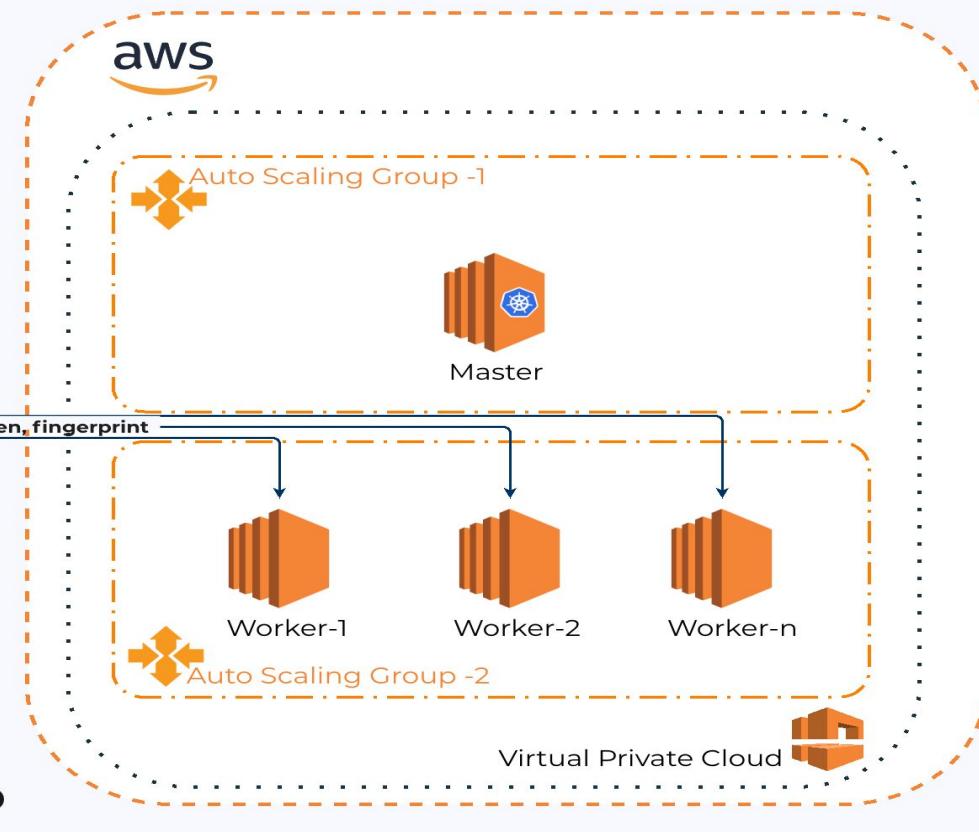
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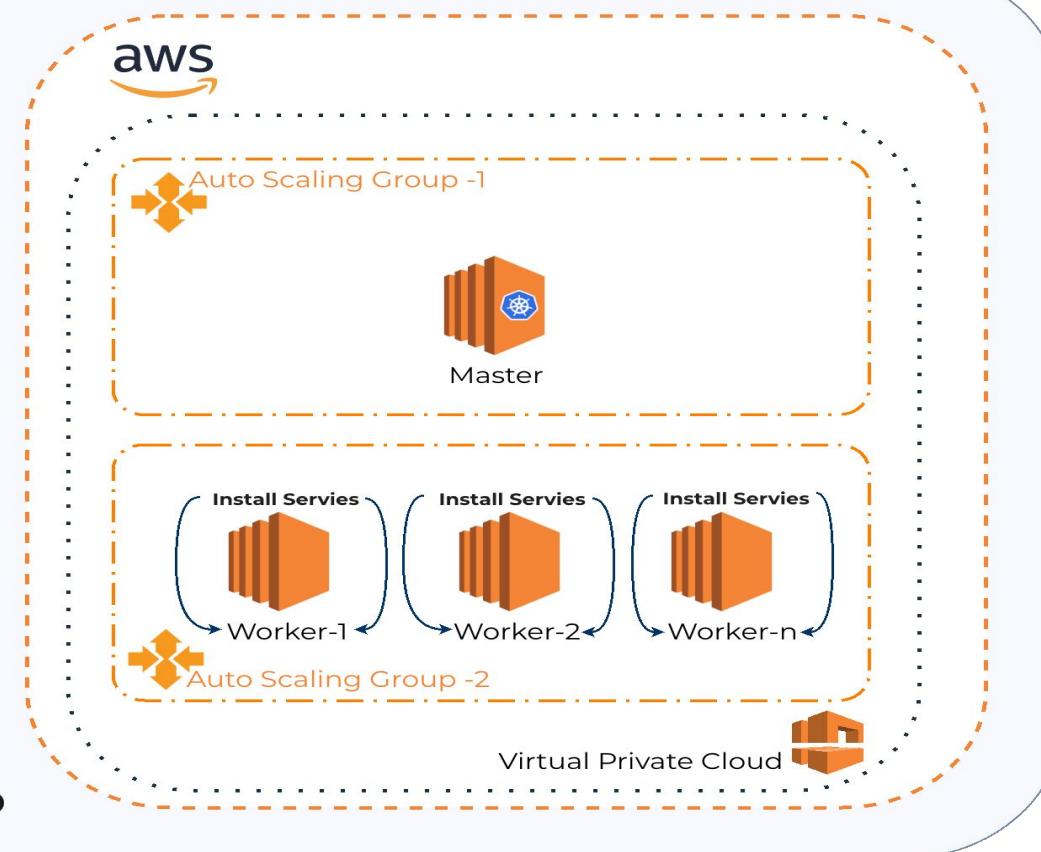
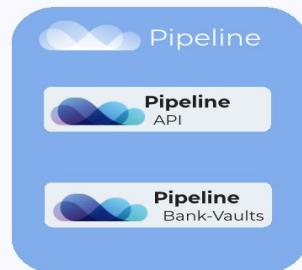
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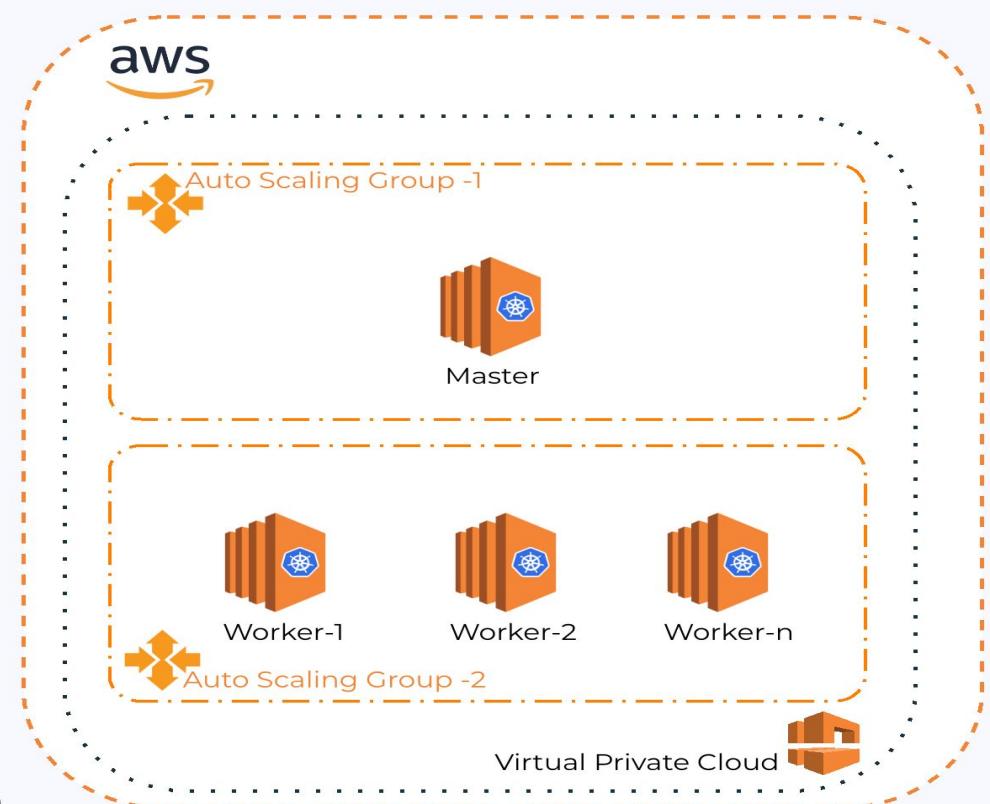
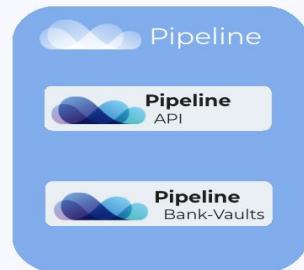
k8s token, fingerprint



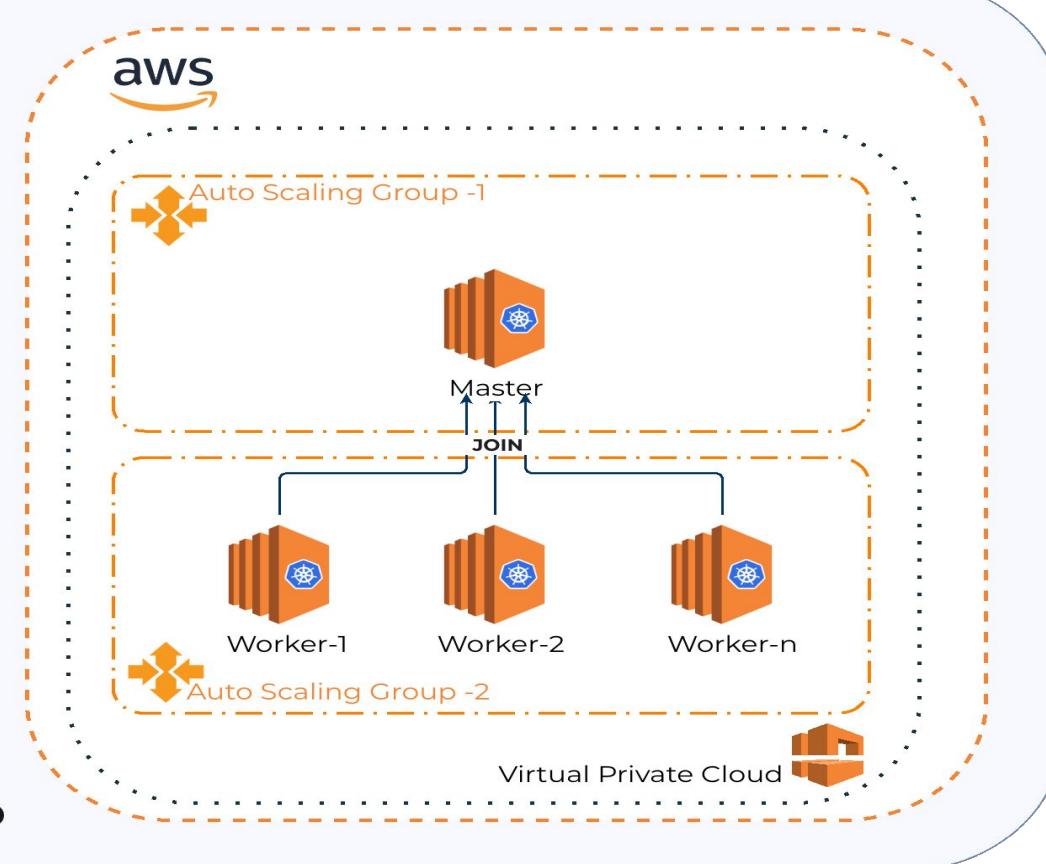
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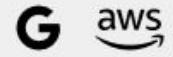
Questions?!



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