CLOUD FUNDAMENTALS FOR DEVELOPERS

LABRINA LOVING
@chixcancode

A BIT ABOUT ME

@chixcancode
labrina.loving@gmail.com

- Work at Microsoft as (title doesn’t matter)
- Been in IT for a long time(never ask a woman her age)
- Currently in MD
- Originally from Chicago
- Used to do a lot of stuff, but now I’m sheltered in place
- I found a Drive-Thru Starbucks

LET'S HERE FROM YOU

On your computer or phone Go To:
https://www.menti.com/

CODE: **13 10 81**

WHAT IS CLOUD COMPUTING

SELF-SERVICE

BROAD NETWORK

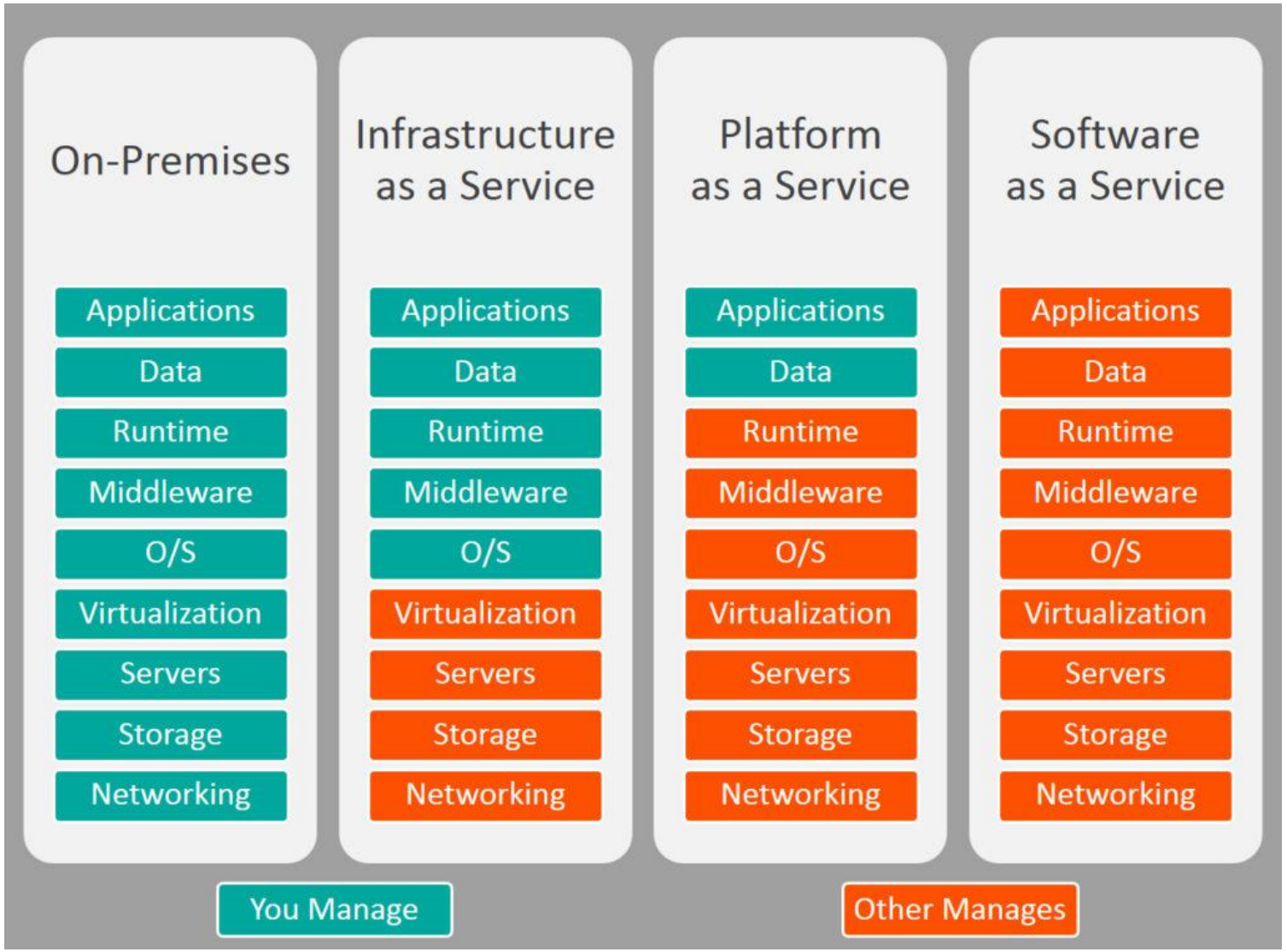
RESOURCE SHARING

RAPID ELASTICITY

MEASURED SERVICE

HTTPS://NVLPUBS.NIST.GOV/NISTPUBS/LEGACY/SP/NISTSPECIALPUBLICATION800-145.PDF

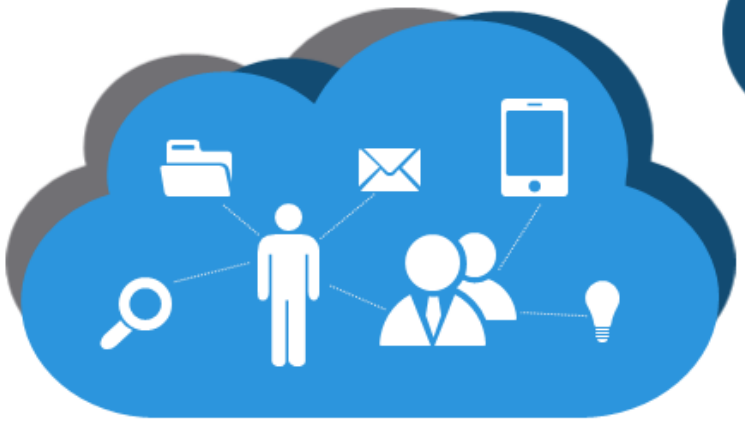
SERVICE MODELS



DEPLOYMENT MODELS

Private

- Single tenant implementation
- Owned and operated by IT organization
- Define your own data management policies
- Self-service and automation capabilities provide new agility



Hybrid

- Combination for Private & one or more public clouds
- Allows IT organizations to become brokers of services

Public

- Multi-tenant implementation
- Owned and operated by Service Provider
- Bound by multi-tenant data management policies
- Similar self-service and automation capabilities as Private Cloud

WHY SHOULD SOFTWARE ENGINEERS CARE ABOUT CLOUD

CLOUD – FIRST LOOK

CLOUD COMPARISON

			
Maturity	Launched in 2006	Launched in 2010	Launched in 2011
Reach	66 Availability Zones	54 Regions/140 countries	20 regions
Market Share	33%	15%	5%

CLOUD COMPUTING SERVICES

- Compute
- Storage
- Networking
- Database

- Big Data
- Event & Messaging
- Artificial Intelligence
- Machine Learning
- IoT

CLOUD SERVICE COMPARISON - COMPUTE

			
IaaS	Amazon Elastic Compute Cloud	Virtual Machines	Google Compute Engine
PaaS	AWS Elastic Beanstalk	App Service and Cloud Services	Google App Engine
Serverless Functions	AWS Lambda	Azure Functions	Google Cloud Functions
Containers	Amazon Elastic Compute Cloud Container Service	Azure Kubernetes Service (AKS)	Google Kubernetes Engine

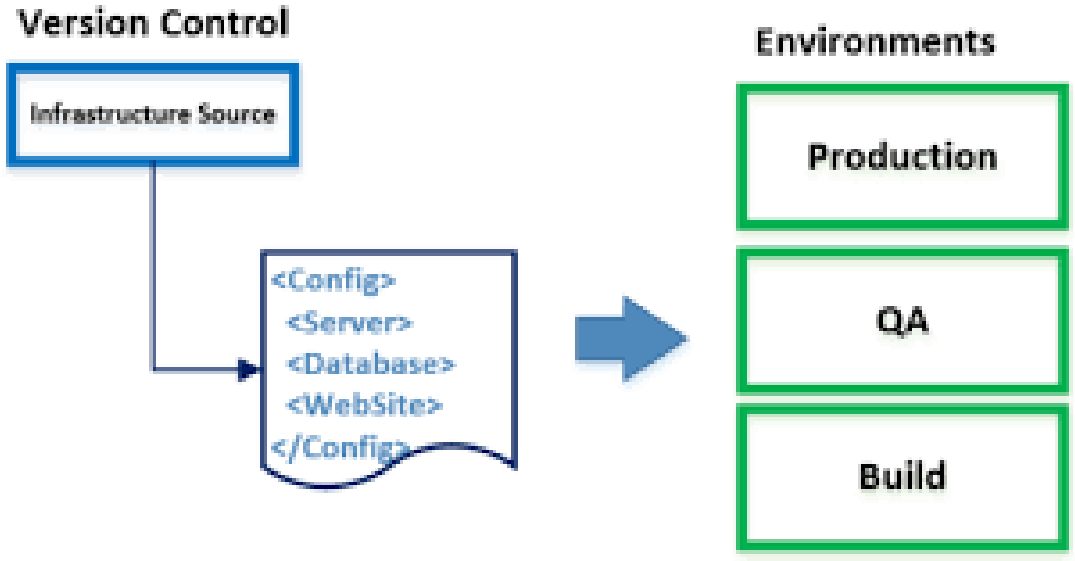
CLOUD SERVICE COMPARISON - DATA

			
RDBMS	Amazon Relational Database Service	SQL Database	Google Cloud SQL
NoSQL: Key–Value	Amazon DynamoDB	Table Storage	Google Cloud Datastore Google Cloud Bigtable
NoSQL: Indexed	Amazon SimpleDB	Azure Cosmos DB	Google Cloud Datastore

CLOUD SERVICE COMPARISON - NETWORKING

			
Virtual Network	Amazon Virtual Private Cloud (VPC)	Virtual Networks (VNets)	Virtual Private Cloud
Elastic Load Balancer	Elastic Load Balancer	Load Balancer	Google Cloud Load Balancing
Peering	Direct Connect	ExpressRoute/VNET Peering	Google Cloud Interconnect

INFRASTRUCTURE AS CODE



AWS CloudFormation

Microsoft Azure
Resource Manager

MULTI-CLOUD – ABSTRACT AWAY CLOUD PROVIDER

serverless

HashiCorp Packer

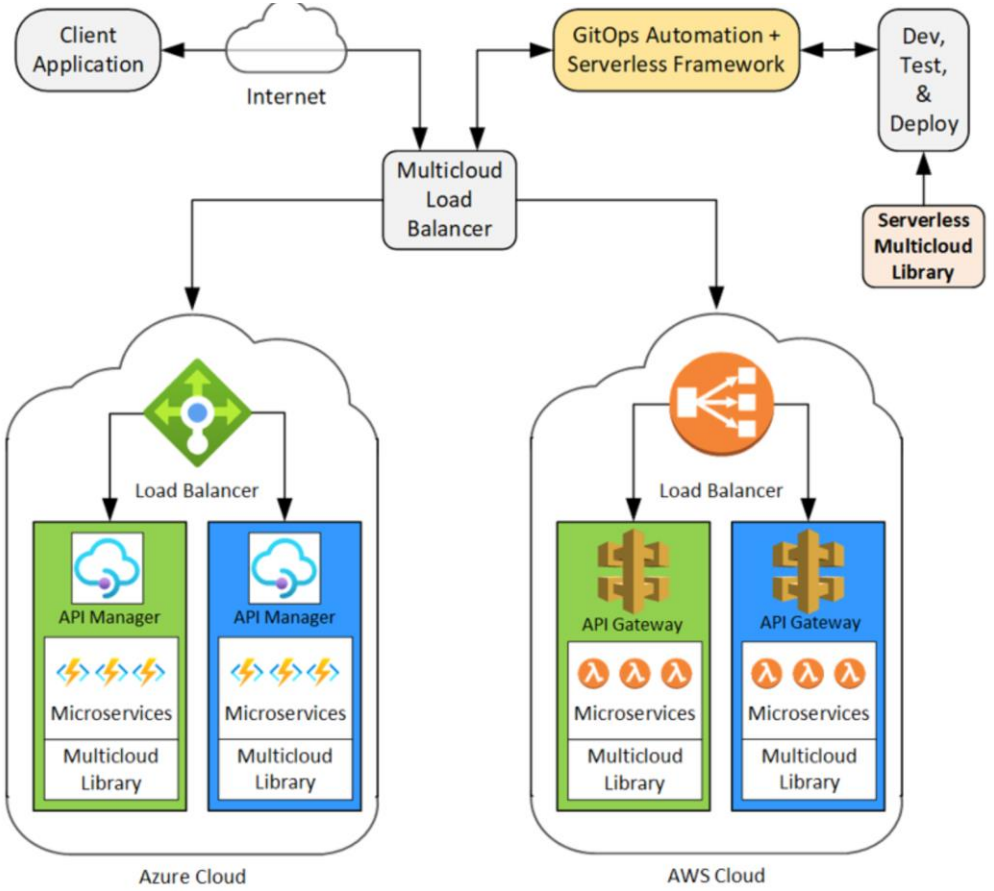
CHEF

puppet

ANSIBLE

TERRAFORM

SALTSTACK

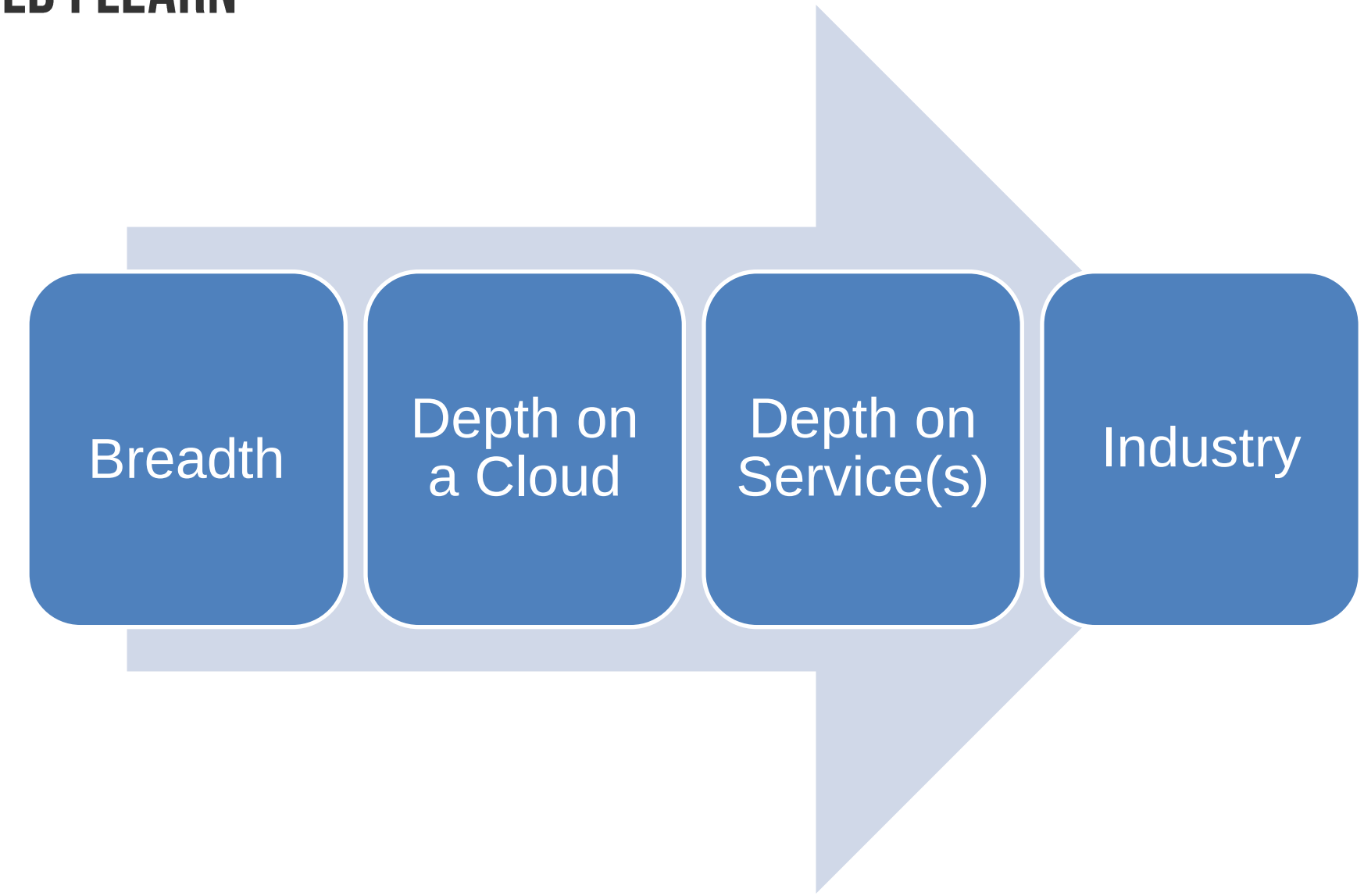


DEMO – MULTI-CLOUD SERVERLESS

https://covid-19-apis.postman.com/

WHICH ONE SHOULD I LEARN?

HOW SHOULD I LEARN



GETTING STARTED

- Learn Cloud Computing Fundamentals
- Pick a cloud, any cloud – start a free trial or free servics
  - AWS
  - Azure
  - Google Cloud
- Get Certified
- Pick a Service(s) you are passionate about
- Go Deep

CERTIFIABLE

https://aws.amazon.com/training/learning-paths/

https://www.microsoft.com/en-us/learning/browse-all-certifications.aspx

https://cloud.google.com/certification

THANKS