AWS ECS in detail

If we are using ECS, AWS is responsible for operations of cloud.

- Monitoring
- Availability
- Scaling
- Patching

We need to take care of.

- Deployment
- Cost Control
- Security

We are responsible for operation in the cloud using the build blocks provided.

If we are deploying our containers on EC2.

AWS is responsible for operations of the cloud.

We are responsible for.

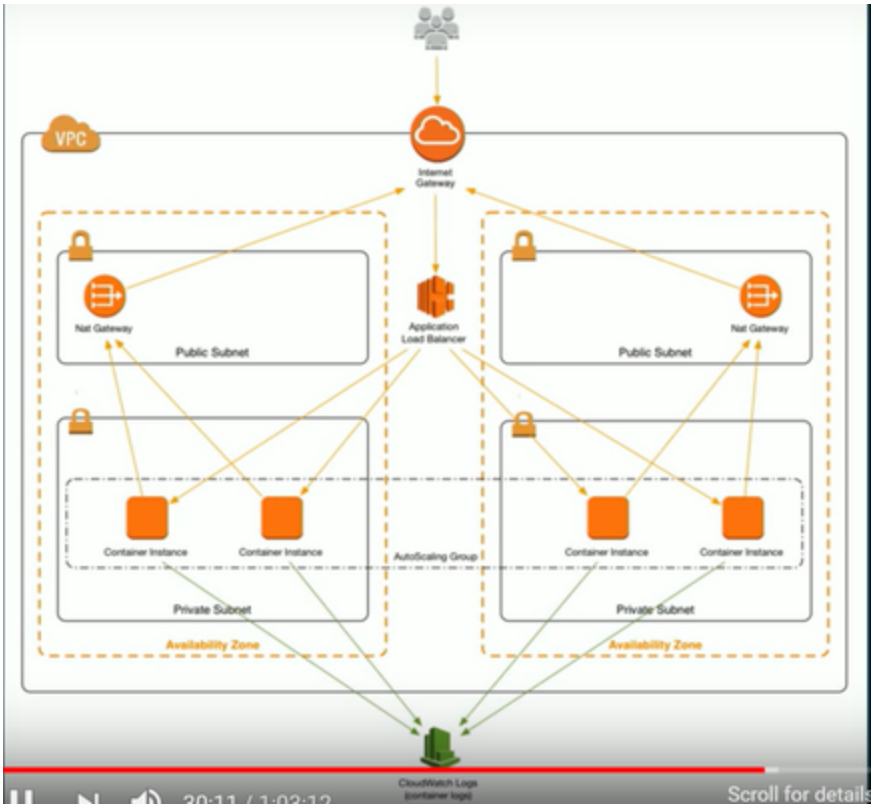
- Deployment
- Cost Control
- Patching
- Monitoring
- Scaling
- Availability
- Security

We are responsible for operations in the cloud using building block provided.

ECS Container Instances.

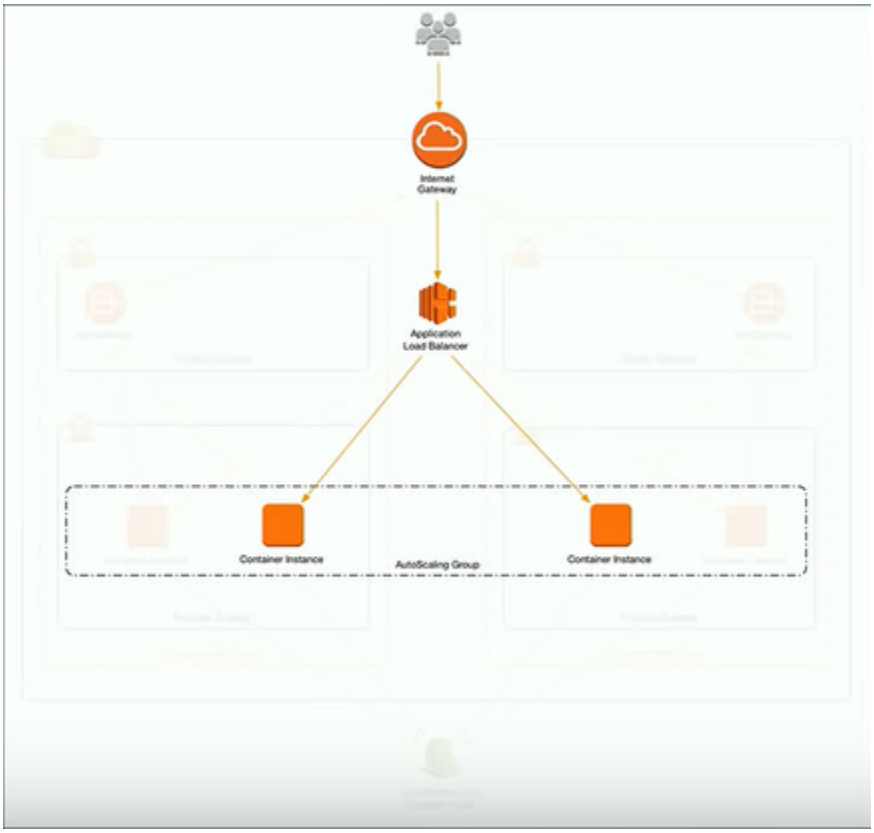
1. Highly available architecture, distributed across multiple availability zones.
2. VPC with public and private subnets
3. Application load balancer with path based routing for inbound traffic
4. NAT gateway for outbound traffic
5. Auto scaling group for container instances
6. Couldwatch logs for centralized container logging

https://github.com/aws-samples/ecs-refarch-cloudformation



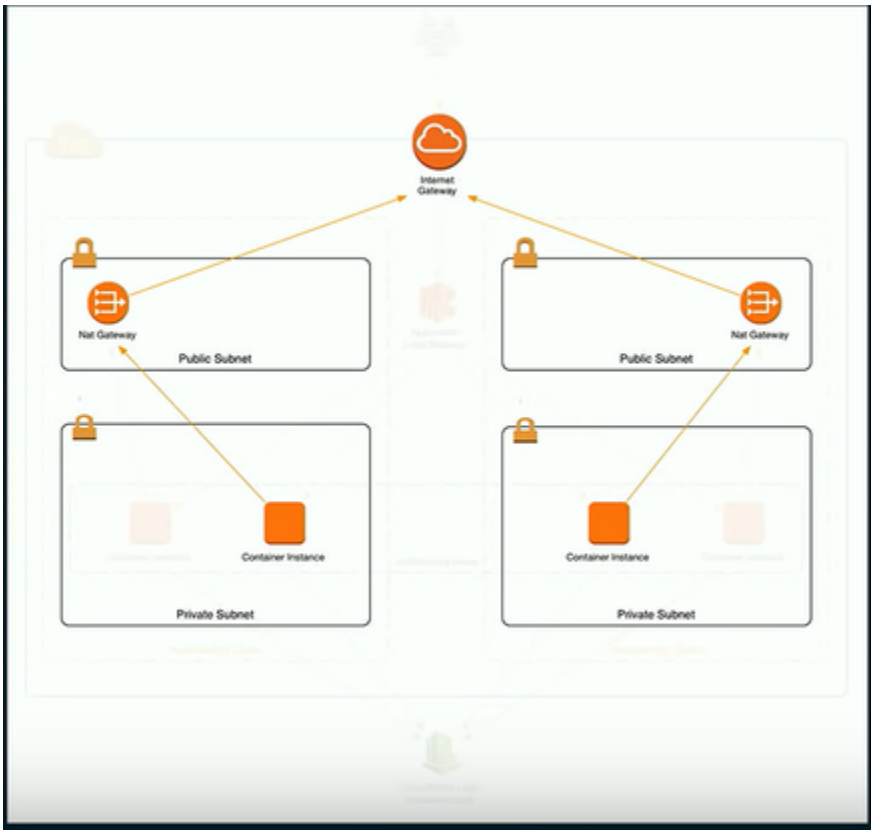
Inbound Traffic flow.

1. Incoming HTTP/HTTPS traffic comes in vai the application load balancer in public subnets.
2. The ALB uses path based routing to route /products/* to the container instances in private subnets running our product's service.
3. Supports dynamic host port mapping, allowing multiple container of the same type on each host.



Outbound traffic flow.

1. Our container instances are in private subnets, with no direct internet access.
2. At same point, they might need access to external services
3. NAT gateway provide a highly scalable and available solution.



Logging:

1. ECS integrates directly with cloudwatch logs
2. Centralized collection of container logs
3. Centralized collection of instances logs
4. Search, filter, and alert on log conditions

Scaling:

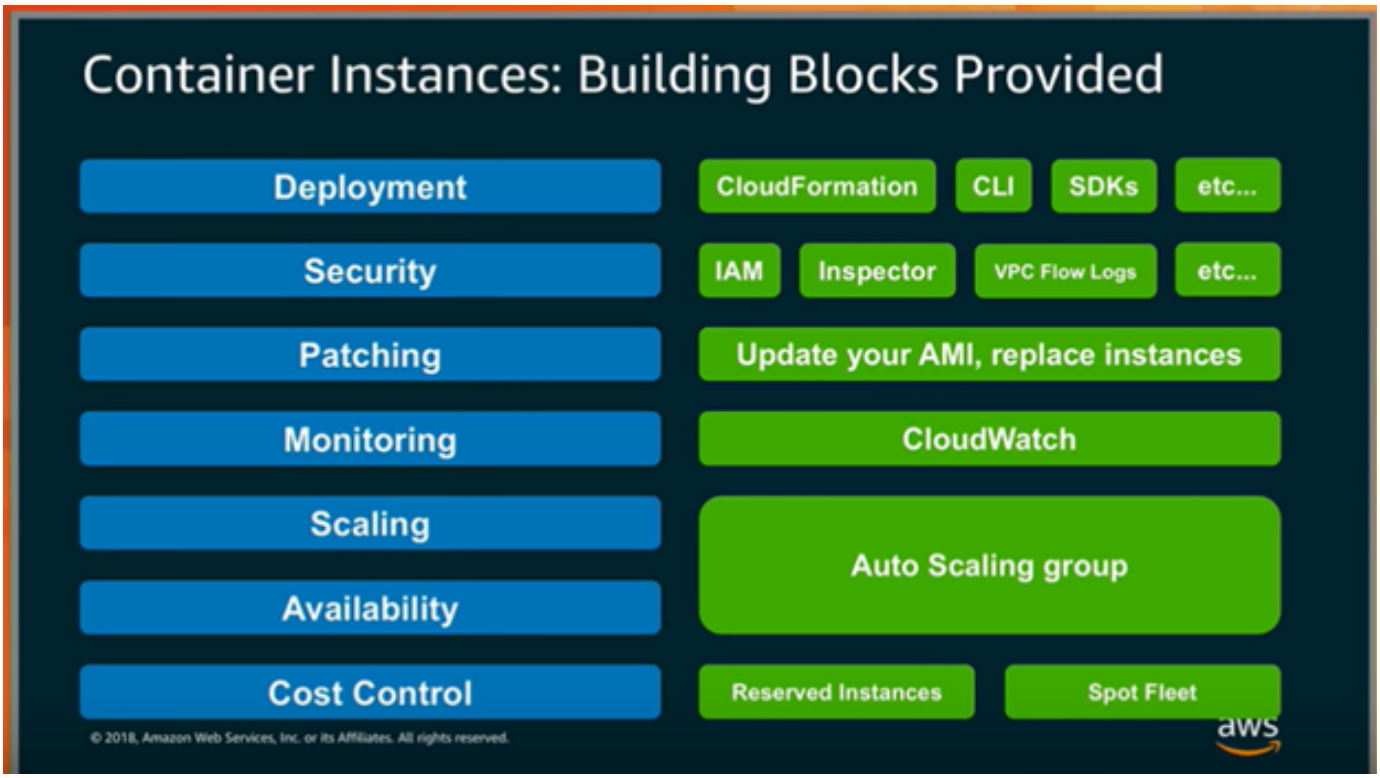
1. Use auto scaling groups
2. Set auto scaling group min, max, desired
3. Scale in and out based on Couldwatch alarms

IAM roles.

1. Bound to the ECS container instance
2. Applied to all container running on the host
3. Pulling images form the ECR
4. Couldwatch logs

IAM roles for tasks.

1. Bound to specific ECS tasks.
2. Task-specific access to AWS services


Container Instances: Building Blocks Provided
Deployment
CloudFormation
CLI
SDKs
etc...
Security
IAM
Inspector
VPC Flow Logs
etc...
Patching
Update your AMI, replace instances
Monitoring
CloudWatch
Scaling
Auto Scaling group
Availability
Cost Control
Reserved Instances
Spot Fleet
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