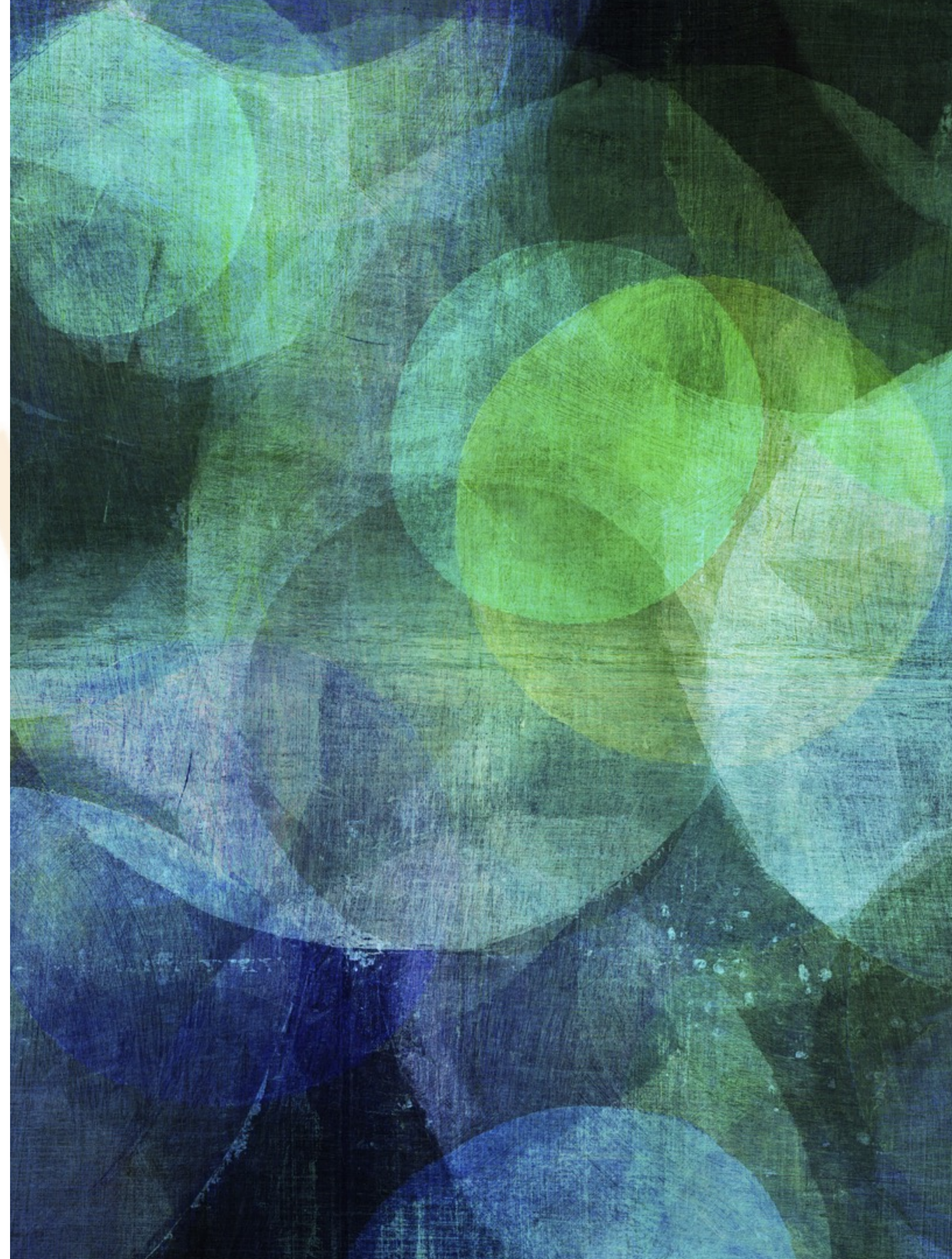


AWS DATA PROCESSING INFRASTRUCTURE 3B

Nan Dun
nan.dun@acm.org



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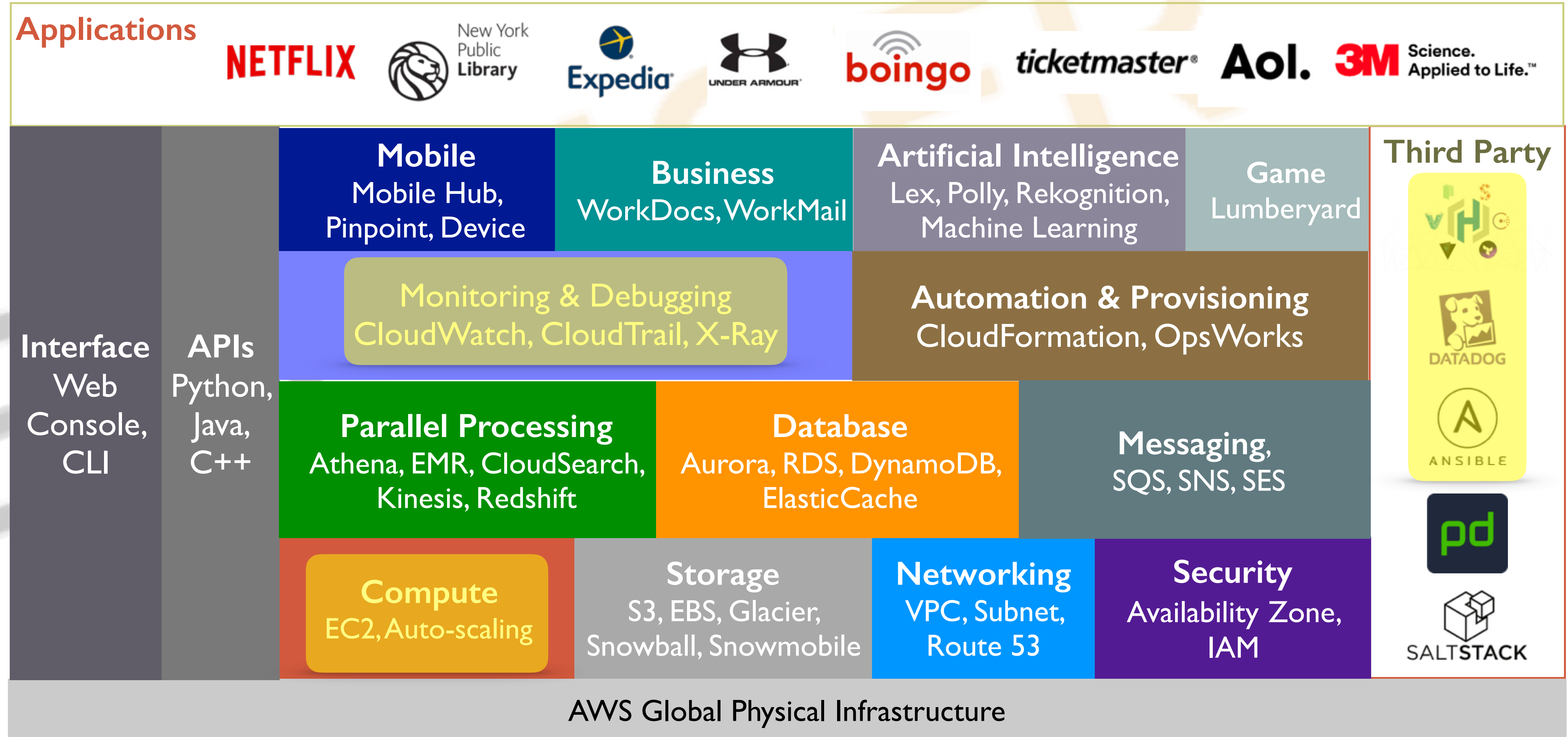
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TODAY'S TOPIC





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ELB

APPLICATION LOAD BALANCER



- resource “aws_alb”
- resource “aws_alb_target_group”
- resource “aws_alb_target_group_attachment”
- resource “aws_alb_listener”
- resource “aws_alb_listener_rule”
 - path pattern: “/webserver\${count.index}/*”

TERRAFORM INTERPOLATION TRICKS



- Interpolation
 - <https://www.terraform.io/docs/configuration/interpolation.html>
- Get list element
 - `"${element(split(",", var.mapper["spot_instance_counts"]), count.index)}"`
- Get list length
 - `"${length(split(",", var.mapper["spot_instance_types"]))}"`
- Get value according to flags
 - `"${var.aws["use_load_balancer"] ? var.webserver["count"] : 0}"`
 - `"${(var.aws["use_load_balancer"] && var.webserver["count"] > 0) ? 1 : 0}"`

AUTO SCALING GROUP

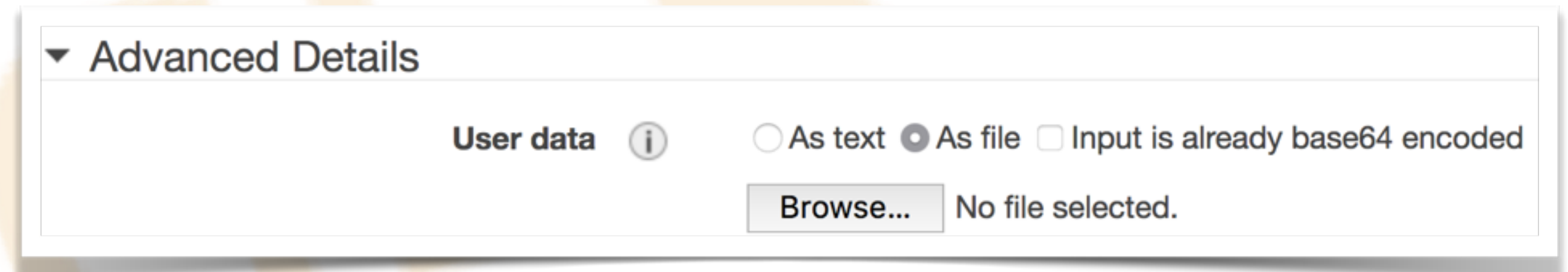


AUTO SCALING GROUP

- resource “aws_launch_configuration”
- resource “aws_autoscaling_group”

USER DATA

- `user_data = "${file("userdata.sh")}"`



A screenshot of a configuration dialog box titled "Advanced Details". It contains a section labeled "User data" with an information icon. Below this, there are three radio buttons: "As text", "As file" (which is selected), and "Input is already base64 encoded". At the bottom, there is a "Browse..." button and the text "No file selected."

- Make it less change
 - User data changes leads to resource change
- or separate dynamic part and dynamic part
 - userdata.sh vs. setup.sh

SPOT INSTANCES



SPOT INSTANCE

- resource “aws_spot_instance_request”
 - Same as “aws_instance”

SPOT FLEET

- resource “aws_spot_fleet_request”
 - iam_fleet_role
 - allocation_strategy
 - spot_price
 - launch_specification
 - user_data

SPOTFLEET REQUEST FROM AWSCLI

Spot instance launch wizard

- Step 1: Find instance types
- Step 2: Configure
- Step 3: Review

Review

 JSON config

▼ Spot request

Request type	Request and Maintain Request a fleet of Spot instances to maintain your target capacity
Target capacity ⓘ	1 instances
AMI ⓘ	ami-5ec1673e : amzn-ami-hvm-2016.09.0.20161028-x86_64-gp2 Amazon Linux AMI 2016.09.0.20161028 x86_64 HVM GP2
Instance type(s) ⓘ	c3.large c3.2xlarge c4.large c4.2xlarge
Allocation strategy ⓘ	lowestPrice Automatically select the cheapest Availability Zone and instance type
Max price ⓘ	\$0.42
IAM fleet role ⓘ	aws-ec2-spot-fleet-role

Download JSON
Configuration

- \$ aws ec2 request-spot-fleet --spot-fleet-request-config file://spotfleet.json

“

Whenever you find yourself on the side of majority, it is time to pause and reflect.

-Mark Twain

CLOUDWATCH



INSTALL AWSLOGS AGENT

- Amazon Linux
 - `yum install -y awslogs`
- Other Linux
 - <http://docs.aws.amazon.com/AmazonCloudWatch/latest/logs/QuickStartEC2Instance.html>
- Ansible to configure and start
 - Copy configuration files
 - Start service

HOMEWORK



- Play with Terraform to
 - Launch ELB
 - Launch spot instance of mapper
 - Launch spot fleet
 - Launch auto scaling group
- taxi/mapred.py
 - Learn how to read S3 object by range
 - Run to see some results

QUESTIONS

- bittiger-aws@googlegroups.com



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