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Six ways to reduce your AWS bill

AWS Cloud Economics

We hear you

What you spend on AWS should be optimized.
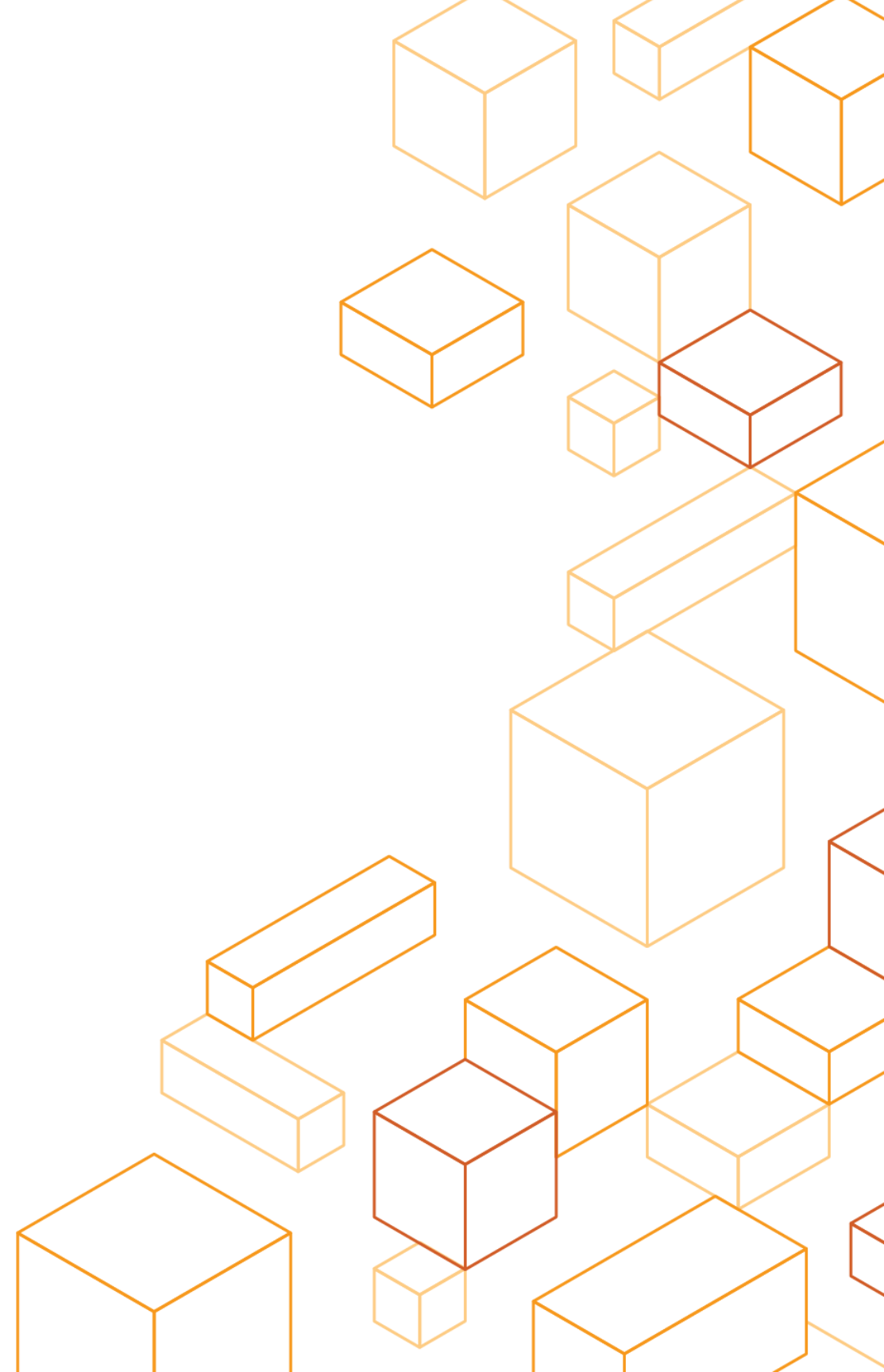
- From startup customers like you around the globe.

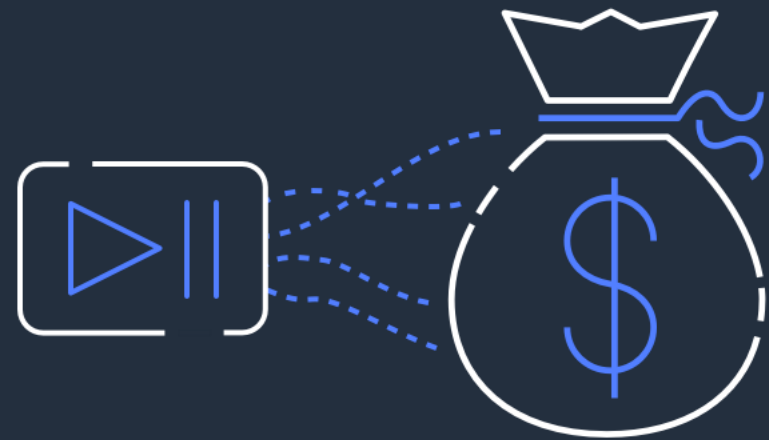- This is not business as usual.

- Usage patterns are changing.

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Today's focus

Six ways startups can optimize AWS costs

Before we start…

6 the six ways

1	2	3	4	5	6
Enable S3 Intelligent-Tiering	Stop paying for idle EC2 and RDS instances	Choose Amazon EC2 Spot for containers	Use AWS Compute Savings Plans	Use AWS Reserved Instances	Cleanup underutilized resources

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Implementation time: *Minutes*

Enable S3 Intelligent-Tiering

Scenario

- You are using S3 standard storage class
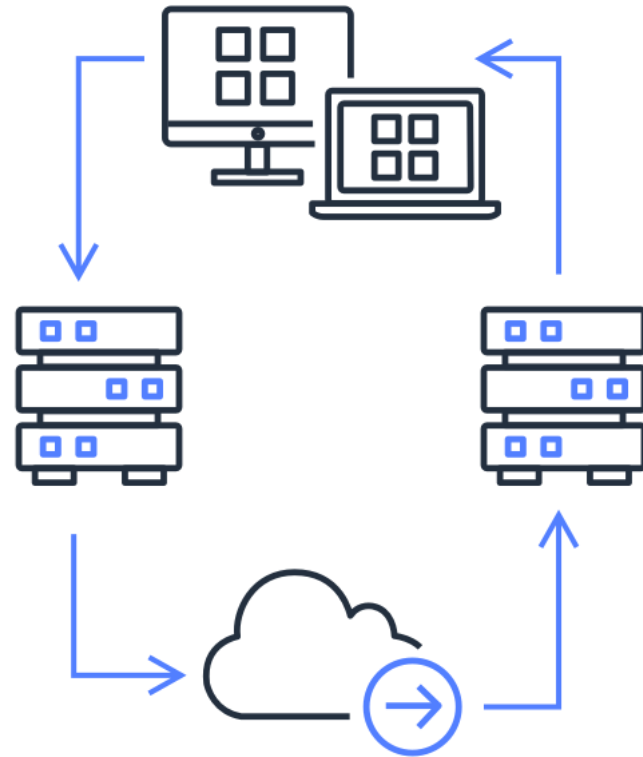- You might be paying for S3 storage you don't use

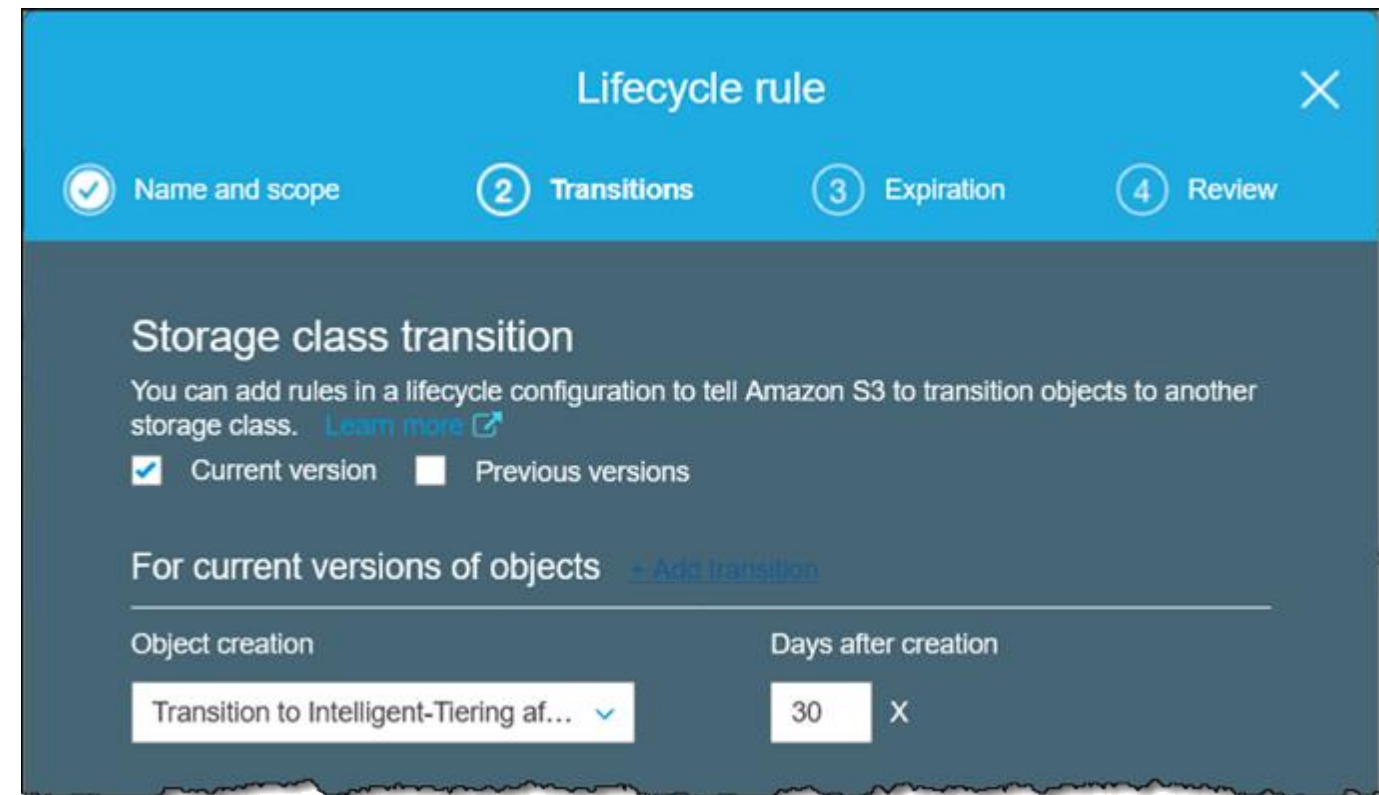**Solution: S3 Intelligent-Tiering**

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Enable S3 Intelligent-Tiering for infrequently accessed objects

Implementation time	Savings potential	Time to realize savings	Commitment required
Minutes	20% – 30% (for S3 Standard objects transitioned to S3 Intelligent-Tier)	30 days	None

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Get started

Upload objects directly into S3
Intelligent-Tier (API)

Create Lifecycle Rules that make use of
Intelligent-Tiering (UI)

https://aws.amazon.com/blogs/aws/new-automatic-cost-optimization-for-amazon-s3-via-intelligent-tiering/

Implementation time: *Minutes to hours*
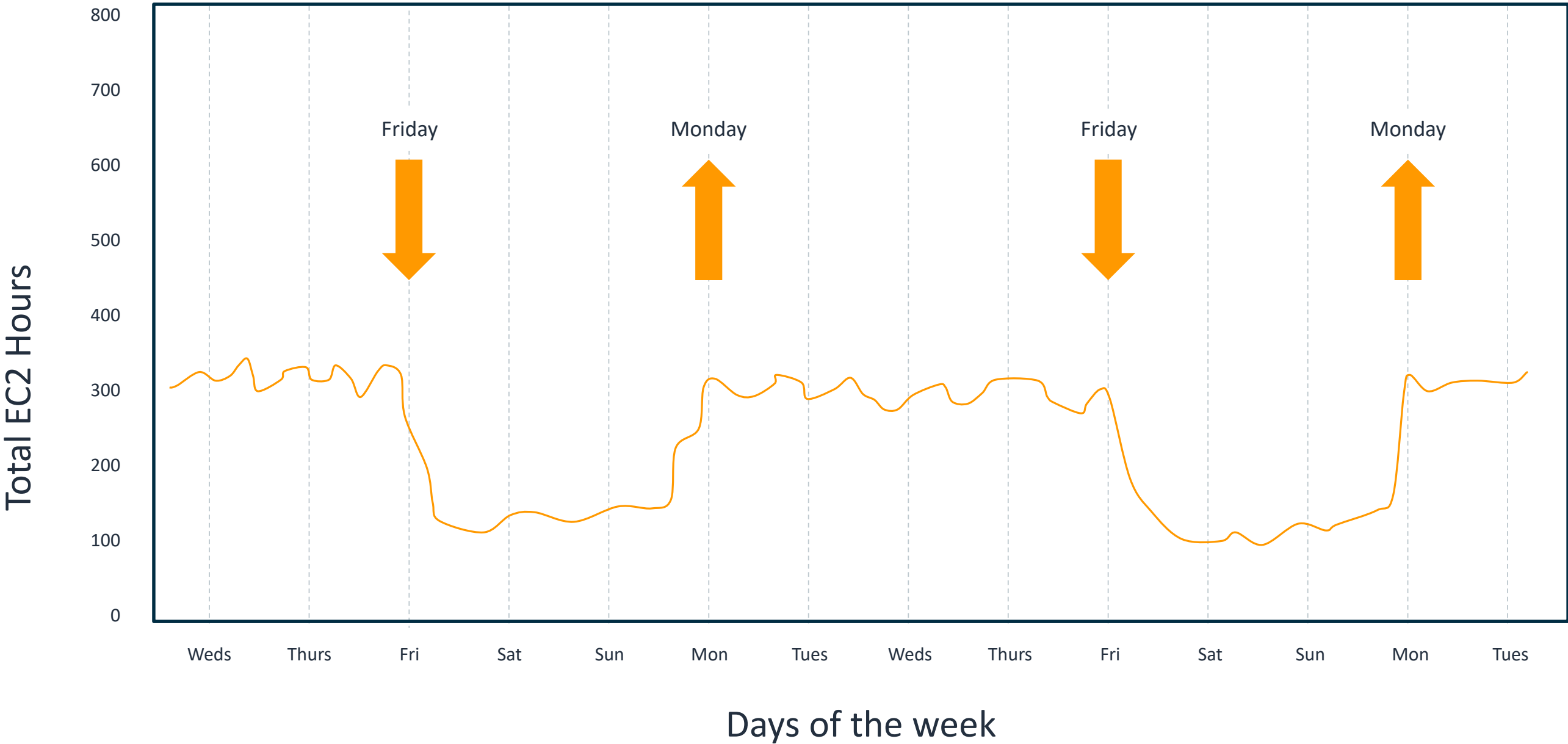
Stop paying **for** idle EC2 and RDS instances

Implementation time: *Minutes to hours*

Stop paying **for** idle EC2 and RDS instances

Scenario

- You leave instances running during evenings, weekends, and holidays

- You might be paying for EC2 and RDS instances even when they are idle

Solution: AWS Instance Scheduler

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Pay for what you need

EC2 Hours vs Time

Schedule EC2 and RDS instances in non-production environments

Implementation time	Savings potential	Time to realize savings	Commitment required
Minutes to hours	Reduce On-Demand costs by up to 35%*	Instantaneous	None

Instance scheduling starts on Friday at 6pm and ends Monday at 6am

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Get started

1   Install the AWS Instance Scheduler

2   Create schedule based on business requirements

3   Tag non-production EC2 and RDS instances to be scheduled

https://aws.amazon.com/solutions/instance-scheduler/

AWS Instance Scheduler

Version 1.3.1
Last updated: 03/2020
Author: AWS

Estimated deployment time: 5 min

Source code
CloudFormation template

View deployment guide

Launch solution in the AWS Console

Deploy with an AWS IQ expert

Deployment resources

Download deployment guide
AWS Solution resources »
Contact us »
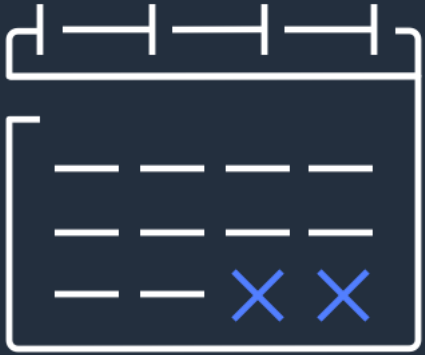
Implementation time: *Hours/days to weeks*

Choose Amazon EC2 Spot for containers

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Scenario

- You are running containerized workloads on EC2, or using managed services such as ECS, EKS, and Fargate

- You are paying the default On-Demand pricing

Solution: Amazon EC2 Spot

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Choose Spot for containerized workloads that are stateless, fault-tolerant, and loosely-coupled

Implementation time	Savings potential	Time to realize savings	Commitment required
Hours/days to weeks	Up to 90% cheaper than On-Demand	Hours/days to weeks	None

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Getting started

Self-service container references

1 **ECS on Spot**
https://aws.amazon.com/ec2/spot/containers-for-less/get-started/

2 **EKS on Spot**
https://aws.amazon.com/blogs/compute/run-your-kubernetes-workloads-on-amazon-ec2-spot-instances-with-amazon-eks/

3 **Fargate on Spot**
https://docs.aws.amazon.com/AmazonECS/latest/developerguide/fargate-capacity-providers.html

4 **AWS Spot workshops for other workloads**
https://ec2spotworkshops.com/

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Implementation time: *Hours*

Use AWS Compute Savings Plans

Scenario

- You have EC2 or Fargate workloads that are always on
- You are leveraging Lambda in your architecture
- You are paying the default On-Demand pricing

Solution: AWS Compute Savings Plans

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AWS Compute Savings Plans

Provides the most flexibility across...

- **Instance family:** e.g. Move from C5 to M5
- **Region:** e.g. change from EU (Ireland) to EU (London)
- **OS:** e.g. Windows to Linux
- **Tenancy:** e.g. switch Dedicated tenancy to Default tenancy
- **Compute options:** e.g. move from EC2 to Fargate or Lambda

Choose 1 year, No Upfront Compute Savings Plans

| Implementation time	Savings potential	Time to realize savings	Commitment required
Hours	Up to 54% (EC2), 20% (Fargate), 12% (Lambda) cheaper than On-Demand	Hours	1 year, No Upfront costs

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Get started

AWS Cost Explorer will provide you with Savings Plans recommendations

1 Review your Savings Plans recommendations in the AWS Cost Explorer

2 Customize recommendations based on your needs (Term Length: 1 Year, Payment Option: No Upfront)

3 Add preferred Savings Plans amount to cart and purchase

https://docs.aws.amazon.com/savingsplans/latest/userguide/get-started.html

Implementation time: *Hours*

Use AWS Reserved Instances

Scenario

- You have RDS, Redshift, ElastiCache and Elasticsearch workloads that are always on

- You are paying the default On-Demand pricing

Solution: AWS Reserved Instances

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Choose 1 year, No Upfront Reserved Instances

Implementation time	Savings potential	Time to realize savings	Commitment required
Hours	Up to 42% (RDS), 32% (ElastiCache), 31% (Elasticsearch), 30% (Redshift) cheaper than On-Demand	Hours	1 year, No Upfront costs

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Get started

AWS Cost Explorer will provide you with Reserved Instance recommendations

1 Review your Reserved Instance recommendations in the AWS Cost Explorer

2 Customize recommendations based on your needs (Term Length: 1 Year, Payment Option: No Upfront)

3 Purchase Reserved Instances from the specific service page in the AWS console

https://docs.aws.amazon.com/awsaccountbilling/latest/aboutv2/ri-recommendations.html

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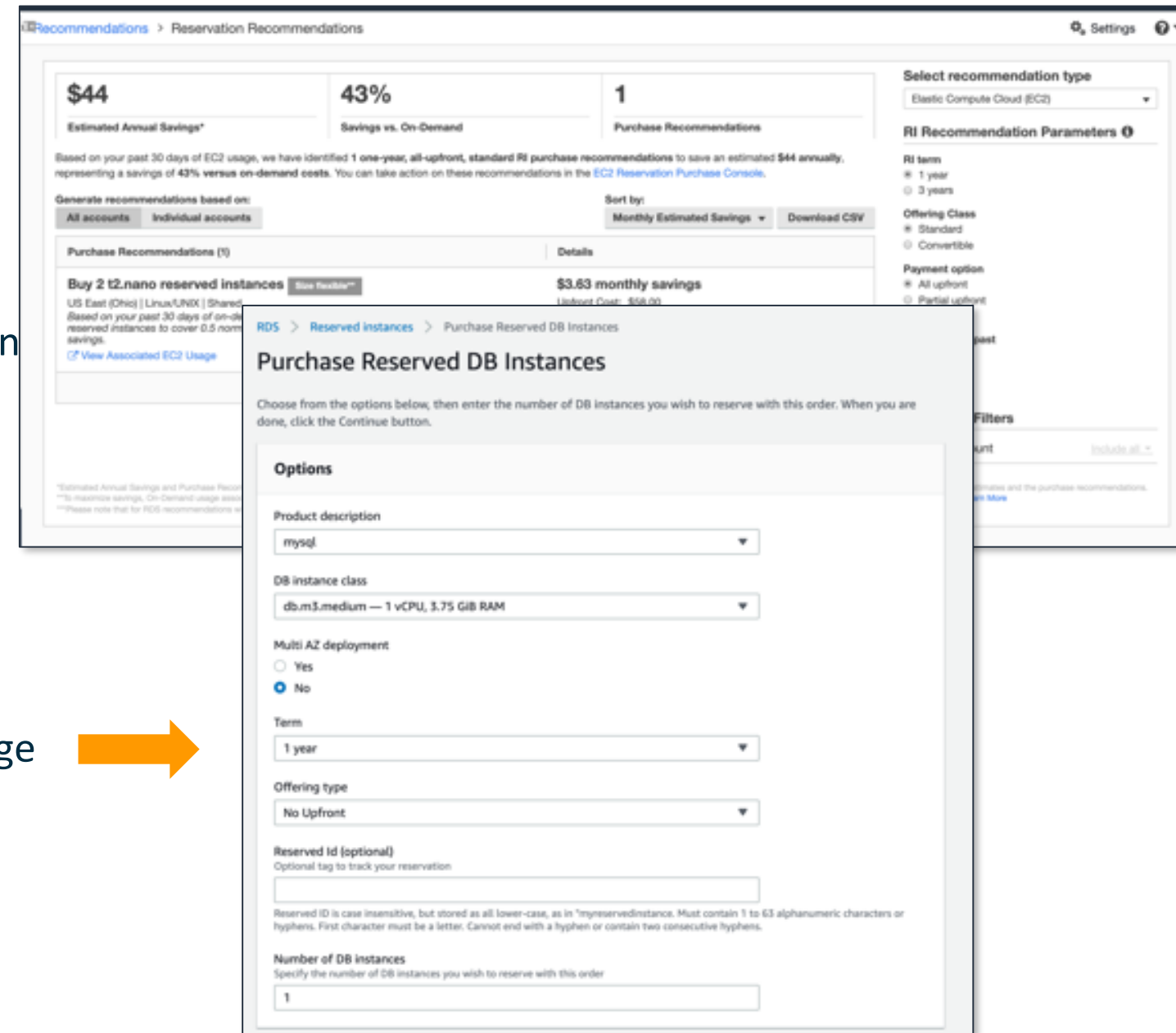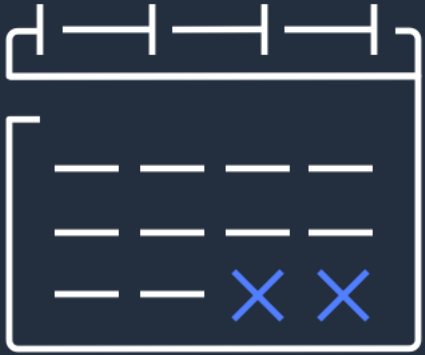
Implementation time: *Hours/days*

Cleanup underutilized resources

Scenario

- You created RDS, Redshift, Route 53, ELBs, EIPs, and EBS resources that are now underutilized

- You are paying for the resources as if they are still being fully used

Solution: AWS Trusted Advisor

AWS Trusted Advisor

Cost Optimization

$1,092.56
Potential monthly savings

Performance

Security

Fault Tolerance

Service Limits

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Cleanup underutilized resources identified by AWS Trusted Advisor

Implementation time	Savings potential	Time to realize savings	Commitment required
Hours to days	$100s to $1000s	Hours to days	None

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Getting started

1   Refresh all of your Cost Optimization checks

2   Review recommended actions and potential savings provided by the checks

3   Prioritize resource cleanup based on greatest savings

Cost Optimization Checks

⚠ **Underutilized Amazon Redshift Clusters**

Checks your Amazon Redshift configuration for clusters that appear to be underutilized.

1 of 1 Amazon Redshift clusters appear to be idle. Monthly savings of up to $612.00 are available by shutting down the clusters if they are billed at th

☑ **Amazon Route 53 Latency Resource Record Sets**

Checks for Amazon Route 53 latency record sets that are configured inefficiently.

0 of 0 domain names have only one latency resource record set.

☑ **Idle Load Balancers**

Checks your Elastic Load Balancing configuration for load balancers that are not actively used.

0 of 0 load balancers appear to be idle. Monthly savings of up to $0 are available by minimizing unused load balancers.

☑ **Unassociated Elastic IP Addresses**

Checks for Elastic IP addresses (EIPs) that are not associated with a running Amazon Elastic Compute Cloud (Amazon EC2) instance.

0 of 0 Elastic IP addresses are not associated with a running instance.

☑ **Underutilized Amazon EBS Volumes**

Checks Amazon Elastic Block Store (Amazon EBS) volume configurations and warns when volumes appear to be underused.

0 of 3 EBS volumes appear to be underutilized. Monthly savings of up to $0 are available by minimizing underused EBS volumes.

https://aws.amazon.com/premiumsupport/technology/trusted-advisor/
https://aws.amazon.com/premiumsupport/pricing/

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Final thoughts

hrs

Implementation time: *Minutes to hours*

Understand your AWS Credits

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Get started

Nearly all startups are eligible for credits via AWS Activate

1 Use the Billing Console to confirm issued credits, check your availability of credits, amount of credits used, & expiration dates of credits issued

2 Contact your Accelerator, Incubator or Investor partners for credit access

3 Learn more at https://aws.amazon.com/activate/

https://aws.amazon.com/activate/

Implementation time: *Minutes to hours*

Understand your AWS costs

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Get started

Your Billing Console and AWS Cost Explorer will provide granular cost insights

1 Use Cost Explorer to dive deep on daily billing and group/filter by account, region and service

2 Get familiar with reading your AWS bills to identify areas of cost to focus on

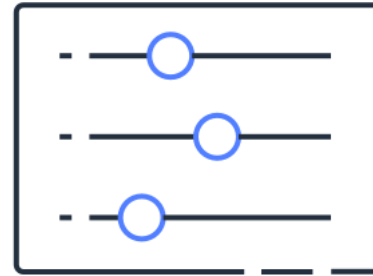**3** Set up budgets and budget alarms to stay aware

To understand
your costs
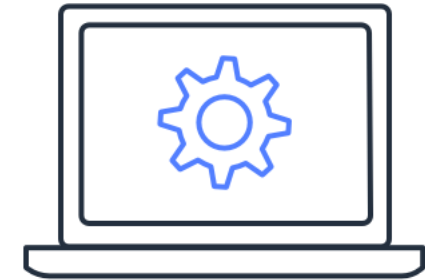
use

AWS
Cost Explorer

To control
your costs

use
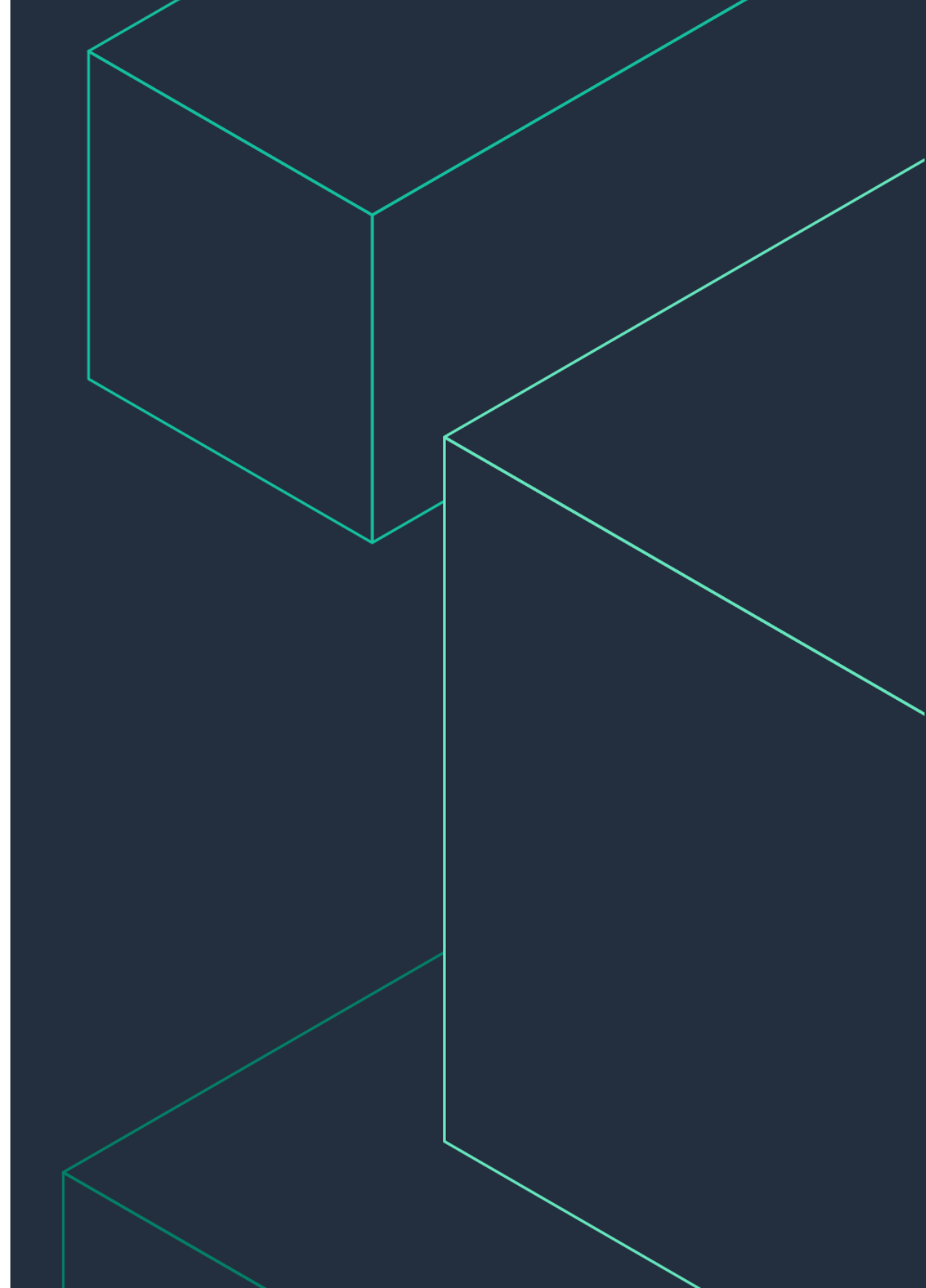
AWS Budgets

To optimize
your costs

use

AWS
Recommendations

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Every startup is different

You may not have seen your particular scenario in this presentation. If you didn't, there are other AWS resources available.

We're here to help.

Thank You

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