



AWS Well-Architected Tool

# **AWS Well-Architected Tool Cruddur - AWS Well-Architected Framework Report**

AWS Account ID: 437888087817

# AWS Well-Architected Tool Report

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# Workload properties

## Workload name

Cruddur

## ARN

arn:aws:wellarchitected:us-east-1:437888087817:workload/6305662b6aad900edb62de8d7b1274a8

## Description

The workload in question is for running a micro-blogging platform on one AWS region.

## Review owner

CTO

## Industry type

-

## Industry

-

## Environment

Pre-production

## AWS Regions

US East (N. Virginia)

## Non-AWS regions

-

## Account IDs

-

## Architectural design

-

## Application

-

# Lens overview

## Questions answered

58/58

## Version

AWS Well-Architected Framework, 31st Mar 2022

Pillar	Questions answered
Operational Excellence	11/11
Security	10/10
Reliability	13/13
Performance Efficiency	8/8
Cost Optimization	10/10
Sustainability	6/6

## Lens notes

-

# Improvement plan

## Improvement item summary

High risk: 0

Medium risk: 0

Pillar	High risk	Medium risk
Operational Excellence	0	0
Security	0	0
Reliability	0	0
Performance Efficiency	0	0
Cost Optimization	0	0
Sustainability	0	0

## High risk

Operational Excellence
No improvements identified

Security
No improvements identified

Reliability
No improvements identified

Performance Efficiency
------------------------

No improvements identified
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Cost Optimization
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No improvements identified
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Sustainability
----------------

No improvements identified
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## Medium risk

Operational Excellence
------------------------

No improvements identified
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Security
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No improvements identified
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Reliability
-------------

No improvements identified
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Performance Efficiency
------------------------

No improvements identified
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Cost Optimization
No improvements identified

Sustainability
No improvements identified






# Lens details

## Operational Excellence

### Questions answered

11/11

### Question status

-  High risk: 0
-  Medium risk: 0
-  No improvements identified: 11
-  Not Applicable: 0
-  Unanswered: 0

### Pillar notes

-

## 1. How do you determine what your priorities are?

✔ No improvements identified

### **Selected choice(s)**

- Evaluate external customer needs
- Evaluate internal customer needs
- Evaluate governance requirements
- Evaluate compliance requirements
- Evaluate threat landscape
- Evaluate tradeoffs
- Manage benefits and risks

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 2. How do you structure your organization to support your business outcomes?

✔ No improvements identified

### **Selected choice(s)**

- Resources have identified owners
- Processes and procedures have identified owners
- Operations activities have identified owners responsible for their performance
- Team members know what they are responsible for
- Mechanisms exist to identify responsibility and ownership
- Mechanisms exist to request additions, changes, and exceptions
- Responsibilities between teams are predefined or negotiated

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

### 3. How does your organizational culture support your business outcomes?

✔ No improvements identified

#### **Selected choice(s)**

- Executive Sponsorship
- Team members are empowered to take action when outcomes are at risk
- Escalation is encouraged
- Communications are timely, clear, and actionable
- Experimentation is encouraged
- Team members are enabled and encouraged to maintain and grow their skill sets
- Resource teams appropriately
- Diverse opinions are encouraged and sought within and across teams

#### **Not selected choice(s)**

- None of these

#### **Best Practices marked as Not Applicable**

-

#### **Notes**

-

#### **Improvement plan**

No risk detected for this question. No action needed.

4. How do you design your workload so that you can understand its state?

✔ No improvements identified

**Selected choice(s)**

- Implement application telemetry
- Implement and configure workload telemetry
- Implement user activity telemetry
- Implement dependency telemetry
- Implement transaction traceability

**Not selected choice(s)**

- None of these

**Best Practices marked as Not Applicable**

-

**Notes**

-

**Improvement plan**

No risk detected for this question. No action needed.

## 5. How do you reduce defects, ease remediation, and improve flow into production?

✔ No improvements identified

### Selected choice(s)

- Use version control
- Test and validate changes
- Use configuration management systems
- Use build and deployment management systems
- Perform patch management
- Share design standards
- Implement practices to improve code quality
- Use multiple environments
- Make frequent, small, reversible changes
- Fully automate integration and deployment

### Not selected choice(s)

- None of these

### Best Practices marked as Not Applicable

-

### Notes

-

### Improvement plan

No risk detected for this question. No action needed.

## 6. How do you mitigate deployment risks?

✔ No improvements identified

### **Selected choice(s)**

- Plan for unsuccessful changes
- Test and validate changes
- Use deployment management systems
- Test using limited deployments
- Deploy using parallel environments
- Deploy frequent, small, reversible changes
- Fully automate integration and deployment
- Automate testing and rollback

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.



## 7. How do you know that you are ready to support a workload?

✔ No improvements identified

### **Selected choice(s)**

- Ensure personnel capability
- Ensure consistent review of operational readiness
- Use runbooks to perform procedures
- Use playbooks to investigate issues
- Make informed decisions to deploy systems and changes

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 8. How do you understand the health of your workload?

✔ No improvements identified

### Selected choice(s)

- Identify key performance indicators
- Define workload metrics
- Collect and analyze workload metrics
- Establish workload metrics baselines
- Learn expected patterns of activity for workload
- Alert when workload outcomes are at risk
- Alert when workload anomalies are detected
- Validate the achievement of outcomes and the effectiveness of KPIs and metrics

### Not selected choice(s)

- None of these

### Best Practices marked as Not Applicable

-

### Notes

-

### Improvement plan

No risk detected for this question. No action needed.

## 9. How do you understand the health of your operations?

✔ No improvements identified

### **Selected choice(s)**

- Identify key performance indicators
- Define operations metrics
- Collect and analyze operations metrics
- Establish operations metrics baselines
- Learn the expected patterns of activity for operations
- Alert when operations outcomes are at risk
- Alert when operations anomalies are detected
- Validate the achievement of outcomes and the effectiveness of KPIs and metrics

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 10. How do you manage workload and operations events?

✔ No improvements identified

### Selected choice(s)

- Use processes for event, incident, and problem management
- Have a process per alert
- Prioritize operational events based on business impact
- Define escalation paths
- Enable push notifications
- Communicate status through dashboards
- Automate responses to events

### Not selected choice(s)

- None of these

### Best Practices marked as Not Applicable

-

### Notes

-

### Improvement plan

No risk detected for this question. No action needed.

## 11. How do you evolve operations?

✔ No improvements identified

### **Selected choice(s)**

- Have a process for continuous improvement
- Perform post-incident analysis
- Implement feedback loops
- Perform Knowledge Management
- Define drivers for improvement
- Validate insights
- Perform operations metrics reviews
- Document and share lessons learned
- Allocate time to make improvements

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

# Security

## Questions answered

10/10

## Question status

- ⊗ High risk: 0
- ⚠ Medium risk: 0
- ✓ No improvements identified: 10
- ⊖ Not Applicable: 0
- ⌚ Unanswered: 0

## Pillar notes

-

## 1. How do you securely operate your workload?

✔ No improvements identified

### Selected choice(s)

- Separate workloads using accounts
- Secure AWS account
- Identify and validate control objectives
- Keep up to date with security threats
- Keep up to date with security recommendations
- Automate testing and validation of security controls in pipelines
- Identify and prioritize risks using a threat model
- Evaluate and implement new security services and features regularly

### Not selected choice(s)

- None of these

### Best Practices marked as Not Applicable

-

### Notes

-

### Improvement plan

No risk detected for this question. No action needed.

## 2. How do you manage identities for people and machines?

✔ No improvements identified

### **Selected choice(s)**

- Use strong sign-in mechanisms
- Use temporary credentials
- Store and use secrets securely
- Rely on a centralized identity provider
- Audit and rotate credentials periodically
- Leverage user groups and attributes

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.



### 3. How do you manage permissions for people and machines?

✔ No improvements identified

#### **Selected choice(s)**

- Define access requirements
- Grant least privilege access
- Establish emergency access process
- Reduce permissions continuously
- Define permission guardrails for your organization
- Manage access based on life cycle
- Analyze public and cross account access
- Share resources securely

#### **Not selected choice(s)**

- None of these

#### **Best Practices marked as Not Applicable**

-

#### **Notes**

-

#### **Improvement plan**

No risk detected for this question. No action needed.

#### 4. How do you detect and investigate security events?

✔ No improvements identified

##### **Selected choice(s)**

- Configure service and application logging
- Analyze logs, findings, and metrics centrally
- Automate response to events
- Implement actionable security events

##### **Not selected choice(s)**

- None of these

##### **Best Practices marked as Not Applicable**

-

##### **Notes**

-

##### **Improvement plan**

No risk detected for this question. No action needed.

## 5. How do you protect your network resources?

✔ No improvements identified

### **Selected choice(s)**

- Create network layers
- Control traffic at all layers
- Automate network protection
- Implement inspection and protection

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 6. How do you protect your compute resources?

✔ No improvements identified

### **Selected choice(s)**

- Perform vulnerability management
- Reduce attack surface
- Implement managed services
- Automate compute protection
- Enable people to perform actions at a distance
- Validate software integrity

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 7. How do you classify your data?

✔ No improvements identified

### **Selected choice(s)**

- Identify the data within your workload
- Define data protection controls
- Automate identification and classification
- Define data lifecycle management

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 8. How do you protect your data at rest?

✔ No improvements identified

### **Selected choice(s)**

- Implement secure key management
- Enforce encryption at rest
- Automate data at rest protection
- Enforce access control
- Use mechanisms to keep people away from data

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 9. How do you protect your data in transit?

✔ No improvements identified

### **Selected choice(s)**

- Implement secure key and certificate management
- Enforce encryption in transit
- Automate detection of unintended data access
- Authenticate network communications

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 10. How do you anticipate, respond to, and recover from incidents?

✔ No improvements identified

### **Selected choice(s)**

- Identify key personnel and external resources
- Develop incident management plans
- Prepare forensic capabilities
- Automate containment capability
- Pre-provision access
- Pre-deploy tools
- Run game days

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.



# Reliability

## Questions answered

13/13

## Question status

- ⊗ High risk: 0
- ⚠ Medium risk: 0
- ✓ No improvements identified: 13
- ⊖ Not Applicable: 0
- ⌚ Unanswered: 0

## Pillar notes

-

## 1. How do you manage service quotas and constraints?

✔ No improvements identified

### **Selected choice(s)**

- Aware of service quotas and constraints
- Manage service quotas across accounts and regions
- Accommodate fixed service quotas and constraints through architecture
- Monitor and manage quotas
- Automate quota management
- Ensure that a sufficient gap exists between the current quotas and the maximum usage to accommodate failover

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 2. How do you plan your network topology?

✔ No improvements identified

### **Selected choice(s)**

- Use highly available network connectivity for your workload public endpoints
- Provision redundant connectivity between private networks in the cloud and on-premises environments
- Ensure IP subnet allocation accounts for expansion and availability
- Prefer hub-and-spoke topologies over many-to-many mesh
- Enforce non-overlapping private IP address ranges in all private address spaces where they are connected

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

### 3. How do you design your workload service architecture?

✔ No improvements identified

#### **Selected choice(s)**

- Choose how to segment your workload
- Build services focused on specific business domains and functionality
- Provide service contracts per API

#### **Not selected choice(s)**

- None of these

#### **Best Practices marked as Not Applicable**

-

#### **Notes**

-

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#### **Improvement plan**

No risk detected for this question. No action needed.

#### 4. How do you design interactions in a distributed system to prevent failures?

✔ No improvements identified

##### **Selected choice(s)**

- Identify which kind of distributed system is required
- Implement loosely coupled dependencies
- Do constant work
- Make all responses idempotent

##### **Not selected choice(s)**

- None of these

##### **Best Practices marked as Not Applicable**

-

##### **Notes**

-

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##### **Improvement plan**

No risk detected for this question. No action needed.

## 5. How do you design interactions in a distributed system to mitigate or withstand failures?

✔ No improvements identified

### **Selected choice(s)**

- Implement graceful degradation to transform applicable hard dependencies into soft dependencies
- Throttle requests
- Control and limit retry calls
- Fail fast and limit queues
- Set client timeouts
- Make services stateless where possible
- Implement emergency levers

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 6. How do you monitor workload resources?

✔ No improvements identified

### Selected choice(s)

- Monitor all components for the workload (Generation)
- Define and calculate metrics (Aggregation)
- Send notifications (Real-time processing and alarming)
- Automate responses (Real-time processing and alarming)
- Analytics
- Conduct reviews regularly
- Monitor end-to-end tracing of requests through your system

### Not selected choice(s)

- None of these

### Best Practices marked as Not Applicable

-

### Notes

-

### Improvement plan

No risk detected for this question. No action needed.

## 7. How do you design your workload to adapt to changes in demand?

✔ No improvements identified

### **Selected choice(s)**

- Use automation when obtaining or scaling resources
- Obtain resources upon detection of impairment to a workload
- Obtain resources upon detection that more resources are needed for a workload
- Load test your workload

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.



## 8. How do you implement change?

✔ No improvements identified

### **Selected choice(s)**

- Use runbooks for standard activities such as deployment
- Integrate functional testing as part of your deployment
- Integrate resiliency testing as part of your deployment
- Deploy using immutable infrastructure
- Deploy changes with automation

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 9. How do you back up data?

✔ No improvements identified

### **Selected choice(s)**

- Identify and back up all data that needs to be backed up, or reproduce the data from sources
- Secure and encrypt backups
- Perform data backup automatically
- Perform periodic recovery of the data to verify backup integrity and processes

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 10. How do you use fault isolation to protect your workload?

✔ No improvements identified

### **Selected choice(s)**

- Deploy the workload to multiple locations
- Select the appropriate locations for your multi-location deployment
- Automate recovery for components constrained to a single location
- Use bulkhead architectures to limit scope of impact

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 11. How do you design your workload to withstand component failures?

✔ No improvements identified

### Selected choice(s)

- Monitor all components of the workload to detect failures
- Fail over to healthy resources
- Automate healing on all layers
- Rely on the data plane and not the control plane during recovery
- Use static stability to prevent bimodal behavior
- Send notifications when events impact availability

### Not selected choice(s)

- None of these

### Best Practices marked as Not Applicable

-

### Notes

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### Improvement plan

No risk detected for this question. No action needed.

## 12. How do you test reliability?

✔ No improvements identified

### **Selected choice(s)**

- Use playbooks to investigate failures
- Perform post-incident analysis
- Test functional requirements
- Test scaling and performance requirements
- Test resiliency using chaos engineering
- Conduct game days regularly

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

### 13. How do you plan for disaster recovery (DR)?

✔ No improvements identified

#### **Selected choice(s)**

- Define recovery objectives for downtime and data loss
- Use defined recovery strategies to meet the recovery objectives
- Test disaster recovery implementation to validate the implementation
- Manage configuration drift at the DR site or Region
- Automate recovery

#### **Not selected choice(s)**

- None of these

#### **Best Practices marked as Not Applicable**

-

#### **Notes**

-

#### **Improvement plan**

No risk detected for this question. No action needed.

# Performance Efficiency

## Questions answered

8/8

## Question status

- ⊗ High risk: 0
- ⚠ Medium risk: 0
- ✓ No improvements identified: 8
- ⊖ Not Applicable: 0
- ⌚ Unanswered: 0

## Pillar notes

-

## 1. How do you select the best performing architecture?

✔ No improvements identified

### **Selected choice(s)**

- Understand the available services and resources
- Define a process for architectural choices
- Factor cost requirements into decisions
- Use policies or reference architectures
- Use guidance from your cloud provider or an appropriate partner
- Benchmark existing workloads
- Load test your workload

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.



## 2. How do you select your compute solution?

✔ No improvements identified

### **Selected choice(s)**

- Evaluate the available compute options
- Understand the available compute configuration options
- Collect compute-related metrics
- Determine the required configuration by right-sizing
- Use the available elasticity of resources
- Re-evaluate compute needs based on metrics

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

### 3. How do you select your storage solution?

✔ No improvements identified

#### **Selected choice(s)**

- Understand storage characteristics and requirements
- Evaluate available configuration options
- Make decisions based on access patterns and metrics

#### **Not selected choice(s)**

- None of these

#### **Best Practices marked as Not Applicable**

-

#### **Notes**

-

#### **Improvement plan**

No risk detected for this question. No action needed.

## 4. How do you select your database solution?

✔ No improvements identified

### **Selected choice(s)**

- Understand data characteristics
- Evaluate the available options
- Collect and record database performance metrics
- Choose data storage based on access patterns
- Optimize data storage based on access patterns and metrics

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 5. How do you configure your networking solution?

✔ No improvements identified

### **Selected choice(s)**

- Understand how networking impacts performance
- Evaluate available networking features
- Choose appropriately sized dedicated connectivity or VPN for hybrid workloads
- Leverage load-balancing and encryption offloading
- Choose network protocols to improve performance
- Choose your workload's location based on network requirements
- Optimize network configuration based on metrics

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 6. How do you evolve your workload to take advantage of new releases?

✔ No improvements identified

### **Selected choice(s)**

- Stay up-to-date on new resources and services
- Define a process to improve workload performance
- Evolve workload performance over time

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 7. How do you monitor your resources to ensure they are performing?

✔ No improvements identified

### **Selected choice(s)**

- Record performance-related metrics
- Analyze metrics when events or incidents occur
- Establish Key Performance Indicators (KPIs) to measure workload performance
- Use monitoring to generate alarm-based notifications
- Review metrics at regular intervals
- Monitor and alarm proactively

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 8. How do you use tradeoffs to improve performance?

✔ No improvements identified

### **Selected choice(s)**

- Understand the areas where performance is most critical
- Learn about design patterns and services
- Identify how tradeoffs impact customers and efficiency
- Measure the impact of performance improvements
- Use various performance-related strategies

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

# Cost Optimization

## Questions answered

10/10

## Question status

- ⊗ High risk: 0
- ⚠ Medium risk: 0
- ✓ No improvements identified: 10
- ⊖ Not Applicable: 0
- ⌚ Unanswered: 0

## Pillar notes

-



## 1. How do you implement cloud financial management?

✔ No improvements identified

### **Selected choice(s)**

- Establish a cost optimization function
- Establish a partnership between finance and technology
- Establish cloud budgets and forecasts
- Implement cost awareness in your organizational processes
- Report and notify on cost optimization
- Monitor cost proactively
- Keep up to date with new service releases

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 2. How do you govern usage?

✔ No improvements identified

### **Selected choice(s)**

- Develop policies based on your organization requirements
- Implement goals and targets
- Implement an account structure
- Implement groups and roles
- Implement cost controls
- Track project lifecycle

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

### 3. How do you monitor usage and cost?

✔ No improvements identified

#### **Selected choice(s)**

- Configure detailed information sources
- Identify cost attribution categories
- Establish organization metrics
- Configure billing and cost management tools
- Add organization information to cost and usage
- Allocate costs based on workload metrics

#### **Not selected choice(s)**

- None of these

#### **Best Practices marked as Not Applicable**

-

#### **Notes**

-

#### **Improvement plan**

No risk detected for this question. No action needed.

#### 4. How do you decommission resources?

✔ No improvements identified

##### **Selected choice(s)**

- Track resources over their life time
- Implement a decommissioning process
- Decommission resources
- Decommission resources automatically

##### **Not selected choice(s)**

- None of these

##### **Best Practices marked as Not Applicable**

-

##### **Notes**

-

##### **Improvement plan**

No risk detected for this question. No action needed.

## 5. How do you evaluate cost when you select services?

✔ No improvements identified

### **Selected choice(s)**

- Identify organization requirements for cost
- Analyze all components of this workload
- Perform a thorough analysis of each component
- Select software with cost effective licensing
- Select components of this workload to optimize cost in line with organization priorities
- Perform cost analysis for different usage over time

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 6. How do you meet cost targets when you select resource type, size and number?

✔ No improvements identified

### **Selected choice(s)**

- Perform cost modeling
- Select resource type, size, and number based on data
- Select resource type, size, and number automatically based on metrics

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 7. How do you use pricing models to reduce cost?

✔ No improvements identified

### **Selected choice(s)**

- Perform pricing model analysis
- Implement regions based on cost
- Select third party agreements with cost efficient terms
- Implement pricing models for all components of this workload
- Perform pricing model analysis at the master account level

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 8. How do you plan for data transfer charges?

✔ No improvements identified

### **Selected choice(s)**

- Perform data transfer modeling
- Select components to optimize data transfer cost
- Implement services to reduce data transfer costs

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.



## 9. How do you manage demand, and supply resources?

✔ No improvements identified

### **Selected choice(s)**

- Perform an analysis on the workload demand
- Implement a buffer or throttle to manage demand
- Supply resources dynamically

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 10. How do you evaluate new services?

✔ No improvements identified

### **Selected choice(s)**

- Develop a workload review process
- Review and analyze this workload regularly

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

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### **Notes**

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### **Improvement plan**

No risk detected for this question. No action needed.

# Sustainability

## Questions answered

6/6

## Question status

- ⊗ High risk: 0
- ⚠ Medium risk: 0
- ✓ No improvements identified: 6
- ⊖ Not Applicable: 0
- ⌚ Unanswered: 0

## Pillar notes

-

## 1. How do you select Regions to support your sustainability goals?

✔ No improvements identified

### **Selected choice(s)**

- Choose Regions near Amazon renewable energy projects and Regions where the grid has a published carbon intensity that is lower than other locations (or Regions).

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

## 2. How do you take advantage of user behavior patterns to support your sustainability goals?

✔ No improvements identified

### **Selected choice(s)**

- Scale infrastructure with user load
- Align SLAs with sustainability goals
- Stop the creation and maintenance of unused assets
- Optimize geographic placement of workloads for user locations
- Optimize team member resources for activities performed

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.

### 3. How do you take advantage of software and architecture patterns to support your sustainability goals?

✔ No improvements identified

#### **Selected choice(s)**

- Optimize software and architecture for asynchronous and scheduled jobs
- Remove or refactor workload components with low or no use
- Optimize areas of code that consume the most time or resources
- Optimize impact on customer devices and equipment
- Use software patterns and architectures that best support data access and storage patterns

#### **Not selected choice(s)**

- None of these

#### **Best Practices marked as Not Applicable**

-

#### **Notes**

-

#### **Improvement plan**

No risk detected for this question. No action needed.

#### 4. How do you take advantage of data access and usage patterns to support your sustainability goals?

✔ No improvements identified

##### **Selected choice(s)**

- Implement a data classification policy
- Use technologies that support data access and storage patterns
- Use lifecycle policies to delete unnecessary data
- Minimize over-provisioning in block storage
- Remove unneeded or redundant data
- Use shared file systems or object storage to access common data
- Minimize data movement across networks
- Back up data only when difficult to recreate

##### **Not selected choice(s)**

- None of these

##### **Best Practices marked as Not Applicable**

-

##### **Notes**

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##### **Improvement plan**

No risk detected for this question. No action needed.

## 5. How do your hardware management and usage practices support your sustainability goals?

✔ No improvements identified

### **Selected choice(s)**

- Use the minimum amount of hardware to meet your needs
- Use instance types with the least impact
- Use managed services
- Optimize your use of GPUs

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

-

### **Notes**

-

### **Improvement plan**

No risk detected for this question. No action needed.



## 6. How do your development and deployment processes support your sustainability goals?

✔ No improvements identified

### **Selected choice(s)**

- Adopt methods that can rapidly introduce sustainability improvements
- Keep your workload up to date
- Increase utilization of build environments
- Use managed device farms for testing

### **Not selected choice(s)**

- None of these

### **Best Practices marked as Not Applicable**

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### **Notes**

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### **Improvement plan**

No risk detected for this question. No action needed.