

## Tugas 1 Komputasi Awan

Developer want to create a web application with an Amazon RDS-hosted database in the US East (Ohio) Region. The requirement specification is the follow:

Service	Data Required
<b>Amazon Elastic Compute Cloud (Amazon EC2)</b>	<ul style="list-style-type: none"> <li>Two Linux t3.2xlarge instances</li> <li>1-Year Standard Reserved billing with no upfront costs</li> </ul>
<b>Amazon Simple Storage Service (Amazon S3)</b>	<ul style="list-style-type: none"> <li>100 GB per month S3 Standard storage</li> <li>10,000 PUT, COPY, POST, or LIST requests</li> <li>5,000 GET, SELECT, and other requests</li> <li>1 GB data returned by S3 Select</li> <li>10 GB data scanned by S3 Select</li> </ul>
<b>Elastic Load Balancing</b>	<ul style="list-style-type: none"> <li>Three Application Load Balancers</li> <li>Average of 50 new connections/second per Application Load Balancer</li> <li>Average connection time is 60 seconds</li> <li>Average of 100 requests per second for each Application Load Balancer</li> <li>Processed bytes per Application Load Balancer for EC2 instances and IP address as targets is 100 GB/month</li> <li>10 average number of rule evaluations per request</li> </ul>
<b>Amazon Route 53</b>	<ul style="list-style-type: none"> <li>5 hosted zones, not using traffic flow</li> <li>10 million standard queries per month</li> <li>10,000 basic Domain Name System (DNS) health checks within AWS</li> <li>20,000 basic DNS health checks outside of AWS</li> <li>10 elastic network interfaces</li> <li>2 million recursive average DNS queries per month</li> </ul>
<b>Amazon Relational Database Service (Amazon RDS)</b>	<ul style="list-style-type: none"> <li>2 RDS db.r5.xlarge standard instances that run MySQL</li> <li>100 GB of General Purpose storage</li> <li>30 GB additional backup storage</li> </ul>

## Amazon EC2:

The screenshot shows the AWS Pricing Calculator for Amazon EC2. The configuration is as follows:

- Operating system:** Linux
- Workloads:** General purpose
- Number of instances:** 2
- EC2 Instance type:** t3.2xlarge
- Instance family:** t3
- Memory (GB):** 8
- Storage:** 100 GB
- Network performance:** Any Network Performance
- Payment options:** Standard Reserved Instances, 1 year, No upfront

The total monthly cost is \$304.56 USD.

Berdasarkan spesifikasi yang diberikan yaitu 2 Linux t3.2xlarge instances dengan 1 year standard reserved bill tanpa upfront costs, biaya untuk Amazon EC2 adalah 304.56 USD/bulan.

## Amazon S3:

The screenshot shows the AWS Pricing Calculator for Amazon S3. The configuration is as follows:

- S3 Standard storage:** 100 GB
- PUT, COPY, POST, or LIST requests:** 10,000
- GET, SELECT, and all other requests:** 5,000
- Data returned by S3 Select:** 1 GB
- Data scanned by S3 Select:** 10 GB

The total monthly cost is \$2.37 USD.

Berdasarkan spesifikasi yang diberikan yaitu 100 GB/month S3 standard storage; 10000 PUT, COPY, LIST requests; 5000 GET, SELECT, and other requests; 1 GB data returned by S3 select; dan 10 GB data returned by S3 select, biaya untuk Amazon S3 adalah 2.37 USD/bulan.

## Elastic Load Balancing:

Elastic Load Balancing [info](#)

Select Elastic Load Balancing Function Options that you want to estimate

☒ Application Load Balancer

☒ Network Load Balancer

☐ Gateway Load Balancer

☐ Classic Load Balancer

Application Load Balancer feature

☒ Load Balancer in AWS Region

☐ Load Balancer on Outposts

Application Load Balancer is best suited for load balancing of HTTP and HTTPS traffic, and provides advanced request routing targeted at the delivery of modern application architectures, including microservices and containers. Depending on the individual request load, up to 10 Application Load Balancers route traffic to targets within Amazon Virtual Private Cloud (Amazon VPC) based on the content of the request.

ALB on Outposts is a fully managed and secure request level (Layer 7) load balancing service that automatically distributes incoming HTTP(S) traffic across multiple targets, such as Amazon EC2 instances, containers, and IP addresses. Within Outposts, ALB will operate in a single subnet and will scale automatically up to the capacity available on the host to meet varying levels of application load without manual intervention. Similar to ALB in the Region, ALB on Outposts will promote high security posture for your application as it works within your Amazon Virtual Private Cloud (VPC) and provides robust security features like managed certificate management and TLS offload.

Service settings [info](#)

Number of Application Load Balancers

5

Show calculations

Total Upfront cost: 0.00 USD

Total Monthly cost: 84.31 USD

Show Details

Cancel

Update

Please specify at least one of the following dimensions to determine LCU pricing.

Processed bytes (Lambda Functions as targets)

Enter the total data processed per ALB for Lambda Functions as targets.

Value

Enter amount

Unit

GB per hour

Processed bytes (EC2 Instances and IP addresses as targets)

Enter the total data processed per ALB for EC2 Instances and IP addresses as targets.

Value

100

Unit

GB per month

Average number of new connections per ALB

Unit

per second

Average connection duration

Enter the average duration for each new connection (if the duration is less than 1 second then enter 1 second).

Value

60

Unit

seconds

Average number of requests per second per ALB

Enter the average number of requests per connection.

100

Average number of rule evaluations per request

10

Show calculations

Total Upfront cost: 0.00 USD

Total Monthly cost: 84.31 USD

Show Details

Cancel

Update

Berdasarkan spesifikasi yang diberikan yaitu 3 Application Load Balancers, average of 50 new connections/second per Application Load Balancers, average of 60 seconds connection time, average of 100 requests per second for each Application Load Balancer, 100 GB/month processed bytes per Application Load Balancer for EC2 instances and IP Address as targets, dan 10 average number of rule evaluations per request, biaya untuk Elastic Load Balancing adalah 84.31 USD/bulan.

## Amazon Route 53:

Hosted Zones

5

Additional Records in Hosted Zones

Enter the sum of 5000 records in excess of 10K in each zone. See examples in the info box.

Enter the sum of 5000 records in excess of 10K in each zone.

Traffic Flow

Enter the amount

Standard queries

10

Unit

million per month

Latency based routing queries

Enter query amount

Unit

million per month

Geo DNS queries

Enter query amount

Unit

million per month

IP-based routing queries

Enter query amount

Unit

million per month

IP (CIDR) blocks

No fees are charged for storage of up to 1,000 IP blocks

Enter the amount

Total Upfront cost: 0.00 USD

Total Monthly cost: 20,894.80 USD

Show Details

Cancel

Update

**DNS Failover Health Checks for endpoints** [info](#)

Basic Checks Within AWS

10000

Basic Checks Outside of AWS

20000

HTTPS Checks Within AWS

Enter the amount

HTTPS Checks Outside of AWS

Enter the amount

String Matching Checks Within AWS

Enter the amount

String Matching Checks Outside of AWS

Enter the amount

Fast Internal Checks Within AWS

Enter the amount

Fast Internal Checks Outside of AWS

Enter the amount

Latency Measurement Checks Within AWS

Enter the amount

Latency Measurement Checks Outside of AWS

Enter the amount

► Show calculations

**Route 53 Resolver** [info](#)

Number of Elastic Network Interfaces

10

Recursive average DNS queries

2

1M  
million per month

► Show calculations

Total Upfront cost: 0.00 USD  
Total Monthly cost: 20894.80 USD

Show Details ▼

Cancel **Save**

Berdasarkan spesifikasi yang diberikan yaitu 5 hosted zones without traffic flow, 10 million standard queries per month, 10000 basic DNS health checks within AWS, 20000 basic DNS health checks outside of AWS, 10 elastic network interfaces, dan 2 million recursive average DNS queries per month, biaya yang dibutuhkan untuk Amazon Route 53 adalah 20894.80 USD/month.

## Amazon RDS for MySQL:

**Nodes**

Enter the number of DB instances that you need.

2

Q db.r5.xlarge

Selected Instance:  
db.r5.xlarge  
vCPU: 32  
Memory: 256 GiB

**Utilization (On-Demand only)**  
With utilization, you still have to stop the instance to get the cost benefit. Utilization only affects OnDemand pricing for instances and not the storage, backups, etc.

Value

100

Unit

%Utilized/Month

Deployment option

Multi-AZ

Pricing model

OnDemand

Total Upfront cost: 0.00 USD  
Total Monthly cost: 12,546.45 USD

Show Details ▼

Cancel **Save and view summary** **Save and add service**

**Storage** [info](#)

Storage for each RDS instance

General Purpose SSD (gp2)

Storage amount

100

Unit

GB

► Show calculations

▼ **CloudWatch Database Insights Pricing for RDS Provisioned Instances** [info](#)

Would you be enabling Database Insights with the database?

Yes

Total Upfront cost: 0.00 USD  
Total Monthly cost: 12,546.45 USD

Show Details ▼

Cancel **Save and view summary** **Save and add service**

The screenshot shows the 'Backup Storage' section of the Amazon RDS Pricing Calculator. It includes a form for 'Additional backup storage' with a value of 30 and a unit of GB. Below this is a 'Show calculations' link. Further down is the 'Snapshot Export' section. A blue tip box provides information about adding read replicas. At the bottom, the pricing summary shows a total upfront cost of 0.00 USD and a total monthly cost of 12,546.45 USD. Navigation buttons include 'Show Details', 'Cancel', 'Save and view summary', and 'Save and add service'.

▼ Backup Storage [Info](#)

Additional backup storage:  Unit:

► [Show calculations](#)

► Snapshot Export [Info](#)

**Tip**  
You can add up to 15 read replicas to each database instance for enhanced read performance and increased availability. Read replicas can be Single-AZ or Multi-AZ, and can have the same or a different instance size as the database instance.  
Add each read replica to the Pricing Calculator as an additional Amazon RDS for MySQL service.

Total Upfront cost: 0.00 USD  
Total Monthly cost: 12,546.45 USD

[Show Details](#) [Cancel](#) [Save and view summary](#) [Save and add service](#)

Berdasarkan spesifikasi yang diberikan yaitu 2 RDS db.r5.8xlarge standard instances that run MySQL, 100 GB of General Purpose storage, dan 30 GB additional backup storage, biaya yang dibutuhkan adalah 12546.45 USD/month

Total cost:

Setelah dijumlahkan, biaya yang dibutuhkan oleh developer adalah 33842.49 USD/bulan atau 405989.88 USD/tahun.



Contact your AWS representative: [Contact Sales](#)

Export Date: 09/03/2025

Language: English

[Estimate url](#)

#### Estimate summary

<b>Upfront cost</b> 0.00 USD	<b>Monthly cost</b> 33,832.49 USD	<b>Total 12 months cost</b> 405,989.88 USD Includes upfront cost
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#### Detailed Estimate

<b>Name</b> Amazon EC2	<b>Group</b> -	<b>Region</b> US East (Ohio)	<b>Upfront cost</b> 0.00 USD	<b>Monthly cost</b> 304.56 USD
<b>Status</b>	-			
<b>Description:</b>	-			
<b>Config summary</b>	Tenancy (Shared Instances), Operating system (Linux), Workload (Consistent, Number of instances: 2), Advance EC2 instance (t3.2xlarge), Pricing strategy ( 1yr No Upfront), Enable monitoring (disabled), DT Inbound: Not selected (0 TB per month), DT Outbound: Not selected (0 TB per month), DT Intra-Region: (0 TB per month)			
<b>Name</b> Amazon Simple Storage Service (S3)	<b>Group</b> -	<b>Region</b> US East (Ohio)	<b>Upfront cost</b> 0.00 USD	<b>Monthly cost</b> 2.37 USD
<b>Status</b>	-			
<b>Description:</b>	-			
<b>Config summary</b>	S3 Standard storage (100 GB per month), PUT, COPY, POST, LIST requests to S3 Standard (10000), GET, SELECT, and all other requests from S3 Standard (5000), Data returned by S3 Select (1 GB per month), Data scanned by S3 Select (10 GB per month)			
<b>Name</b> Elastic Load Balancing	<b>Group</b> -	<b>Region</b> US East (Ohio)	<b>Upfront cost</b> 0.00 USD	<b>Monthly cost</b> 84.31 USD
<b>Status</b>	-			
<b>Description:</b>	-			
<b>Config summary</b>	Number of Application Load Balancers (3)			
<b>Name</b> Amazon Route 53	<b>Group</b> -	<b>Region</b> US East (Ohio)	<b>Upfront cost</b> 0.00 USD	<b>Monthly cost</b> 20,894.80 USD
<b>Status</b>	-			
<b>Description:</b>	-			
<b>Config summary</b>	Hosted Zones (5), Basic Checks Within AWS (10000), Number of Elastic Network Interfaces (10)			
<b>Name</b> Amazon RDS for MySQL	<b>Group</b> -	<b>Region</b> US East (Ohio)	<b>Upfront cost</b> 0.00 USD	<b>Monthly cost</b> 12,546.45 USD
<b>Status</b>	-			
<b>Description:</b>	-			
<b>Config summary</b>	Storage amount (100 GB), Storage for each RDS instance (General Purpose SSD (gp2)), Nodes (2), Instance type (db.r5.8xlarge), Utilization (On-Demand only) (100 % Utilized/Month), Deployment option (Multi-AZ), Pricing strategy (OnDemand), Additional backup storage (30 GB)			

#### Acknowledgement

AWS Pricing Calculator provides only an estimate of your AWS fees and doesn't include any taxes that might apply. Your actual fees depend on a variety of factors, including your actual usage of AWS services. [Learn more](#)