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30 AWS Budgets: Concepts that every Cloud Engineer should know!

1. AWS Budgets

- What?

AWS Budgets is a tool for tracking your AWS costs and usage, and taking action accordingly.

- Why?

It helps you stay within your budget, control costs, and understand usage patterns.

- How?

You can set up budgets for costs, usage, Reserved Instance (RI) utilization, RI coverage, Savings Plans utilization, and Savings Plans coverage. Notifications can be configured to alert you when you exceed or are forecasted to exceed your budget, or if your utilization or coverage falls below your set threshold.

- Not using?

You might overspend or underutilize resources without even realizing it.

2. Cost Budgets

- What?

Cost budgets let you plan how much you want to spend on a service.



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- Why?

This helps to control spending and keep it within limits.

- How?

In AWS Budgets, you can set up a cost budget by defining a fixed or variable target amount, and choosing whether to be alerted for actual or forecasted spend.

- Not using?

Without a cost budget, you might overspend on a service.

3. Usage Budgets

- What?

Usage budgets help you plan how much you want to use one or more services.

- Why?

They prevent overuse of a service, which can lead to unexpected costs.

- How?

You can set up a usage budget in AWS Budgets by defining a fixed usage amount.

- Not using?

You might exceed service limits or AWS Free Tier offerings without a usage budget.

4. RI Utilization Budgets

- What?



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These budgets allow you to define a utilization threshold and receive alerts when your RI usage falls below that threshold.

- **Why?**

This ensures your RIs are optimally used.

- **How?**

In AWS Budgets, set a threshold and enable alerts for low RI usage.

- **Not using?**

You might have underutilized RIs that are not giving you the maximum return on your investment.

5. RI Coverage Budgets

- **What?**

RI Coverage Budgets allow you to define a coverage threshold and receive alerts when the number of your instance hours covered by RIs fall below that threshold.

- **Why?**

This helps you to maintain optimal coverage of your instance usage by RIs.

- **How?**

Set a threshold and enable alerts for low RI coverage in AWS Budgets.

- **Not using?**

Without this, you might not realize when your instance usage isn't optimally covered by RIs.

6. Savings Plans Utilization Budgets



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- **What?**

These budgets allow you to define a utilization threshold and receive alerts when the usage of your Savings Plans falls below that threshold.

- **Why?**

This ensures that your Savings Plans are optimally used.

- **How?**

Set a threshold and enable alerts for low Savings Plans usage in AWS Budgets.

- **Not using?**

You might have underutilized Savings Plans that are not giving you the maximum return on your investment.

7. Savings Plans Coverage Budgets

- **What?**

Savings Plans Coverage Budgets allow you to define a coverage threshold and receive alerts when your Savings Plans eligible usage that is covered by Savings Plans fall below that threshold.

- **Why?**

This helps you to maintain optimal coverage of your instance usage by Savings Plans.

- **How?**

Set a threshold and enable alerts for low Savings Plans coverage in AWS Budgets.

- **Not using?**



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Without this, you might not realize when your instance usage isn't optimally covered by Savings Plans.

8. AWS Budgets Notifications

- What?

AWS Budgets allows you to set up notifications based on your budget.

- Why?

Notifications can help you stay proactive and avoid unexpected charges.

- How?

You can configure notifications to warn you if you exceed, or are forecasted to exceed, your budgeted amount for cost or usage budgets, or if you fall below your target utilization and coverage for RI or Savings Plans budgets.

- Not using?

Without notifications, you might not realize you've exceeded your budget or you're underutilizing resources until it's too late.

9. Amazon SNS topic for budget notifications

- What?

AWS Budgets lets you have notifications sent to an Amazon SNS topic.

- Why?

This allows you to centralize and automate the handling of budget alerts, especially useful in large organizations or complex systems.

- How?



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You can set this up in the notification settings when you create or edit a budget.

- **Not using?**

Without this, you'll have to check your AWS Budgets manually for any alerts.

10. Receiving budget alerts in Amazon Chime and Slack

- **What?**

You can configure AWS Budgets to send budget alerts to Amazon Chime and Slack.

- **Why?**

This ensures that the alerts reach you in real time where you and your team collaborate.

- **How?**

Set this up in the notification settings when you create or edit a budget.

- **Not using?**

Without this, you might miss important budget alerts among other emails and notifications.

11. Consolidated Billing

- **What?**

AWS Budgets supports consolidated billing in an organization.

- **Why?**

This allows you to manage and control budgets across multiple accounts in an organization.



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- **How?**

The owner of the management account can use IAM policies to control access to budgets by member accounts.

- **Not using?**

You'll have to manage budgets for each account separately which could be time-consuming and less efficient.

12. IAM Policies for AWS Budgets

- **What?**

IAM policies can be used to control access to AWS Budgets.

- **Why?**

This provides better security and access control for your budgets.

- **How?**

Create roles with permissions that allow users to create, edit, delete, or read budgets in a specific account.

- **Not using?**

Without proper IAM policies, unauthorized users might have access to sensitive budget information.

13. Cross-Account Usage

- **What?**

Cross-account usage is not supported in AWS Budgets.

- **Why?**



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This is important to understand for maintaining proper access control and preventing inadvertent budget changes.

- How?

It's just a point to be aware of, there's no action to be taken.

- Not using?

If you try to use cross-account features with AWS Budgets, you will encounter issues.

14. AWS Budgets Visibility

- What?

A budget is only visible to users with access to the account that created the budget, and with access to the budget itself.

- Why?

This ensures that only authorized users can view and manage the budgets.

- How?

Use IAM roles and policies to grant the appropriate access to budgets.

- Not using?

If you don't manage access properly, unauthorized users may gain access to your budget details.

15. Charges Inclusion

- What?



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AWS Budgets can include or exclude charges such as discounts, refunds, support fees, and taxes.

- Why?

This gives you more granular control over what you are budgeting for.

- How?

You can specify what types of charges to include or exclude when setting up a budget.

- Not using?

If you don't specify, your budget may not accurately reflect your actual costs.

16. Cost and Usage Tracking

- What?

AWS Budgets offers simple-to-complex cost and usage tracking.

- Why?

This allows you to monitor your AWS costs and usage closely.

- How?

You can create budgets for different cost and usage scenarios and set up alerts.

- Not using?

You might lose track of your costs and usage.

17. Fixed or Variable Budget Amounts

- What?



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You can set up a monthly cost budget with a fixed or variable target amount.

- **Why?**

This allows flexibility in budgeting according to your spending patterns.

- **How?**

You can define the type of budget amount when setting up a cost budget.

- **Not using?**

Your budget might not reflect your actual spending pattern, leading to inaccurate forecasting.

18. RI or Savings Plans Utilization and Coverage

- **What?**

You can track your aggregate utilization and coverage metrics for your RIs or Savings Plans.

- **Why?**

It helps ensure that you're getting the maximum value from your RIs and Savings Plans.

- **How?**

Set up a utilization or coverage budget and set alerts for low utilization or coverage.

- **Not using?**

You might not be utilizing your RIs and Savings Plans optimally.

19. AWS Budgets Actions



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- **What?**

AWS Budgets lets you automatically apply actions, like applying a custom IAM policy that limits provisioning additional resources.

- **Why?**

This helps control costs by preventing resource over-provisioning.

- **How?**

Configure this in the notification settings when setting up a budget.

- **Not using?**

You might overspend if resources are provisioned beyond the budget.

20. Forecasted Notifications

- **What?**

AWS Budgets offers forecasted notifications.

- **Why?**

This allows you to anticipate potential overspending or underutilization before it happens.

- **How?**

Set up forecasted notifications when setting up a budget.

- **Not using?**

You may not have enough time to react to potential overspending or underutilization.

21. Budget Updates Frequency



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- **What?**

AWS Budgets information is updated up to three times a day.

- **Why?**

Regular updates allow you to keep track of your AWS usage and costs in near-real time.

- **How?**

The updates occur automatically, so there's no action required from your side.

- **Not using?**

If you don't check your budgets regularly, you might miss out on important cost or usage changes.

22. AWS Budgets Integration with Amazon SNS

- **What?**

AWS Budgets can send budget notifications to an Amazon SNS topic or to an email address, or to both.

- **Why?**

This helps you stay updated about your budget status without having to log into AWS.

- **How?**

You can set up the SNS notifications while creating or editing a budget.

- **Not using?**

If you don't set up SNS notifications, you may need to manually check your budget status.



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23. Usage Budgets

- What?

AWS Budgets allows you to plan how much you want to use one or more services.

- Why?

This helps in ensuring that you're not exceeding the service limits or AWS Free Tier offerings.

- How?

You can set up usage budgets from the AWS Budgets console.

- Not using?

Without usage budgets, you might exceed the service limits or free tier allowances.

24. Savings Plans Utilization Budgets

- What?

You can define a utilization threshold for your Savings Plans.

- Why?

This lets you see if your Savings Plans are unused or under-utilized, helping you maximize your savings.

- How?

You can create a Savings Plans utilization budget in the AWS Budgets console.

- Not using?



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Without such a budget, you might not be utilizing your Savings Plans optimally, leading to potential cost inefficiencies.

25. Savings Plans Coverage Budgets

- **What?**

You can define a coverage threshold for your Savings Plans.

- **Why?**

This lets you see how much of your instance usage is covered by Savings Plans.

- **How?**

You can set up a Savings Plans coverage budget in AWS Budgets.

- **Not using?**

You might not be maximizing your coverage, leading to increased costs.

26. Copying a Budget

- **What?**

AWS Budgets allows you to copy an existing budget.

- **Why?**

This saves you time if you need to create similar budgets.

- **How?**

From the budget's actions menu, you can choose to copy the budget.

- **Not using?**



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Without this feature, you would need to manually create each new budget from scratch.

27. Deleting a Budget

- **What?**

You can delete a budget in AWS Budgets.

- **Why?**

This helps you manage your budgets and remove those that are no longer needed.

- **How?**

From the budget's actions menu, choose to delete the budget.

- **Not using?**

If you don't delete unnecessary budgets, your AWS Budgets dashboard could become cluttered and harder to manage.

28. Downloading a Budget

- **What?**

AWS Budgets allows you to download a budget.

- **Why?**

This allows you to analyze your budget data offline or in another tool.

- **How?**

From the budget's actions menu, choose to download the budget.

- **Not using?**



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If you don't download your budgets, you might have to manually recreate the data elsewhere.

29. Viewing Your Budgets

- **What?**

AWS Budgets provides a console to view all your budgets.

- **Why?**

This helps you monitor all your budgets in one place.

- **How?**

Simply navigate to the AWS Budgets dashboard to view your budgets.

30. Creating an Amazon SNS Topic for Budget Notifications

- **What?**

AWS Budgets allows you to create an Amazon SNS topic for budget notifications.

- **Why?**

This provides a flexible way to receive and manage AWS Budgets notifications.

- **How?**

When setting up notifications for a budget, choose to send notifications to a new Amazon SNS topic.

- **Not using?**

You might miss out on timely budget notifications or find them harder to manage.



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