**"What are resource groups?**

Resource groups are used to organize your AWS resources effectively. AWS Resource Groups is the service that enables you to manage and automate tasks across a large number of resources simultaneously. This guide provides instructions on creating and managing resource groups in AWS Resource Groups. The tasks you can perform on a resource depend on the specific AWS service you are using."

In AWS, a resource refers to an entity that can be interacted with, such as an Amazon EC2 instance, an AWS CloudFormation stack, or an Amazon S3 bucket. Managing individual resources can become cumbersome when dealing with multiple entities. To streamline this process, AWS provides the concept of resource groups, allowing you to organize and handle multiple resources collectively rather than navigating across different AWS services for each task.

For scenarios involving a substantial number of interconnected resources, like a group of EC2 instances forming an application layer, the need often arises to perform actions on these resources in bulk. Bulk actions may include:

1. Applying updates or security patches.

2. Upgrading applications.

3. Opening or closing ports for network traffic.

4. Collecting specific log and monitoring data from a fleet of instances.

By utilizing resource groups, you can efficiently manage and automate these bulk actions, enhancing the overall efficiency of your AWS resource management.

**CloudWatch**

Amazon CloudWatch is a real-time monitoring service for Amazon Web Services (AWS) resources and the applications hosted on AWS. It allows users to collect and track metrics, which represent measurable variables related to their resources and applications.

CloudWatch provides an automatic display of metrics for every AWS service in use. This dashboard is divided into the following sections:

1. Alarms by AWS Service:

The "Alarms by AWS Service" section allows users to assess the health of their AWS services by providing information about alarm states across all services.

2. Recent Alarms:

The "Recent Alarms" section organizes alarms based on their status and the time since the most recent alarm state transition. This section showcases the most recent 100 alarms.

3. Cross Service Dashboard:

The "Cross Service Dashboard" is prominently featured on the landing page if the AWS account has five or fewer services. Users can modify this display by navigating to the cross-service dashboard and adjusting the "Show on Overview Dashboard" setting as needed.

By leveraging Amazon CloudWatch, users gain valuable insights into the performance and health of their AWS resources and applications, empowering them to make informed decisions and take proactive measures to optimize their AWS environment.

**Event buses**

Event buses play a crucial role in event-driven architectures, serving as a central hub for receiving events from various sources. These sources encompass a wide range of entities, including AWS services within your account or from external accounts, Software as a Service (SaaS) partner services, and custom applications that emit events.

Upon receiving an event, Amazon Event Bridge, the event bus manager, takes charge of evaluating whether the incoming event satisfies the conditions specified by the rules associated with that particular event bus. This rule-based mechanism allows for the effective routing and processing of events based on predefined criteria, providing a flexible and scalable approach to handling event-driven workflows within your system.