**AWS Temporary Resource Checker Notification App**

**Overview**

This solution deploys an **AWS Lambda function** that checks for temporary EC2 instances with the naming prefix temp-ad-hoc-\* and notifies a configured SNS email & Slack channel.

**Architecture**

The solution follows a serverless architecture to ensure **scalability, reliability, and cost efficiency**. It includes:

* **Terraform** to provision and manage AWS resources.
* **AWS Lambda** to execute the script that checks EC2 instances.
* **AWS EventBridge** (CloudWatch Events) to trigger Lambda at **6 PM daily**.
* **AWS SNS** to send notifications via email and Slack.
* **IAM Policies** to enforce security and access control.
* **AWS CloudWatch Logs & Alarms** for monitoring and alerting.
* **AWS KMS** to encrypt SNS topics and CloudWatch logs.

**Why This Approach?**

1. **Serverless and Scalable**:
   * Lambda scales automatically, reducing infrastructure overhead.
   * EventBridge ensures the function runs only when needed, saving costs.
2. **Event-Driven & Cost-Effective**:
   * Instead of continuously polling, this runs at a **scheduled interval (6 PM daily)**.
3. **Security Best Practices**:
   * Least privilege IAM policies.
   * **KMS encryption** for sensitive logs and notifications.
4. **Easily Extensible**:
   * Can be expanded to monitor additional AWS resources.

**Alignment with AWS Well-Architected Framework**

✅ **Operational Excellence**: Automates resource monitoring and alerting.  
✅ **Security**: IAM policies enforce least privilege. Logs and SNS messages are encrypted.  
✅ **Reliability**: AWS-managed services ensure high availability.  
✅ **Performance Efficiency**: Event-driven approach ensures minimal compute usage.  
✅ **Cost Optimization**: No always-on servers; Lambda runs only when triggered.

**Conclusion**

This solution ensures **cost-effective, automated monitoring** of temporary AWS resources and **sends notifications via SNS**. The **Terraform-based deployment** follows AWS best practices, enabling easy scaling and maintainability.