AWS RDS Idle Shutdown with Lambda

This checklist provides step-by-step instructions to set up automatic idle shutdown for an RDS instance using AWS Lambda. The solution includes a Lambda function, IAM role, CloudWatch Events, and optional API Gateway integration.

1. Create an IAM role for Lambda (e.g., rds-idle-manager-role): - Trust policy: lambda.amazonaws.com - Permissions: rds:StopDBInstance, rds:StartDBInstance, rds:DescribeDBInstances, ssm:GetParameter, ssm:GetParameters, logs:CreateLogGroup, logs:CreateLogStream, logs:PutLogEvents.
2. Store idle timeout parameter in SSM Parameter Store: aws ssm put-parameter --name /rds/idle_shutdown_minutes --type String --value "10"
3. Write the Lambda function (Python 3.12/3.13): - Use boto3 to describe DB connections. - If idle (no connections) for threshold minutes, stop the DB. - Optionally, allow manual start/stop via API Gateway trigger.
4. Deploy the Lambda: - Upload code in AWS Console or using CLI. - Attach IAM role created above.
5. Set up CloudWatch Event rule: aws events put-rule --name rds-idle-shutdown-10min --schedule-expression "rate(10 minutes)" Target: the Lambda function.
6. Verify by checking CloudWatch Logs for Lambda execution results.
7. Optional: API Gateway trigger for manual control: - Create API Gateway HTTP API. - Integrate with Lambda. - Set route with IAM or custom authorizer. - Test secure start/stop calls.

Notes: - Ensure your RDS instance is configured for stop/start (not Aurora Serverless v2). - Stopped instances still incur storage charges. - If using IAM authentication, update policies accordingly.