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M.S. Information Systems, 2024
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Background

B.Tech Computer Science, GITAM University, India - 2021

Associate Software Engineer, Hexaware Tech, 2021 – 22

Certifications

- AWS Solutions Architect - Associate
- Terraform Associate
- Azure Fundamentals
- AWS Cloud Practitioner

Learnings

- AWS Control Tower vs Landing Zone architecture
- Resource Explorer, Group Tagging, Python Functions
- CI/CD pipelines using native AWS tools (CodePipeline, CodeBuild, CodeCommit)
- Principals of Cloud Security and DSPM

Project Details and Resume



SCAN ME

Thank You!

- A special shout out to Perminder Sandhu and the entire IT team for their guidance, encouragement and support throughout my Co-Op journey. Thank you for being a constant source of inspiration and knowledge.

AWS Cloud Co-Op

Tasks

• Dynamic AWS Resource Tagging at Creation

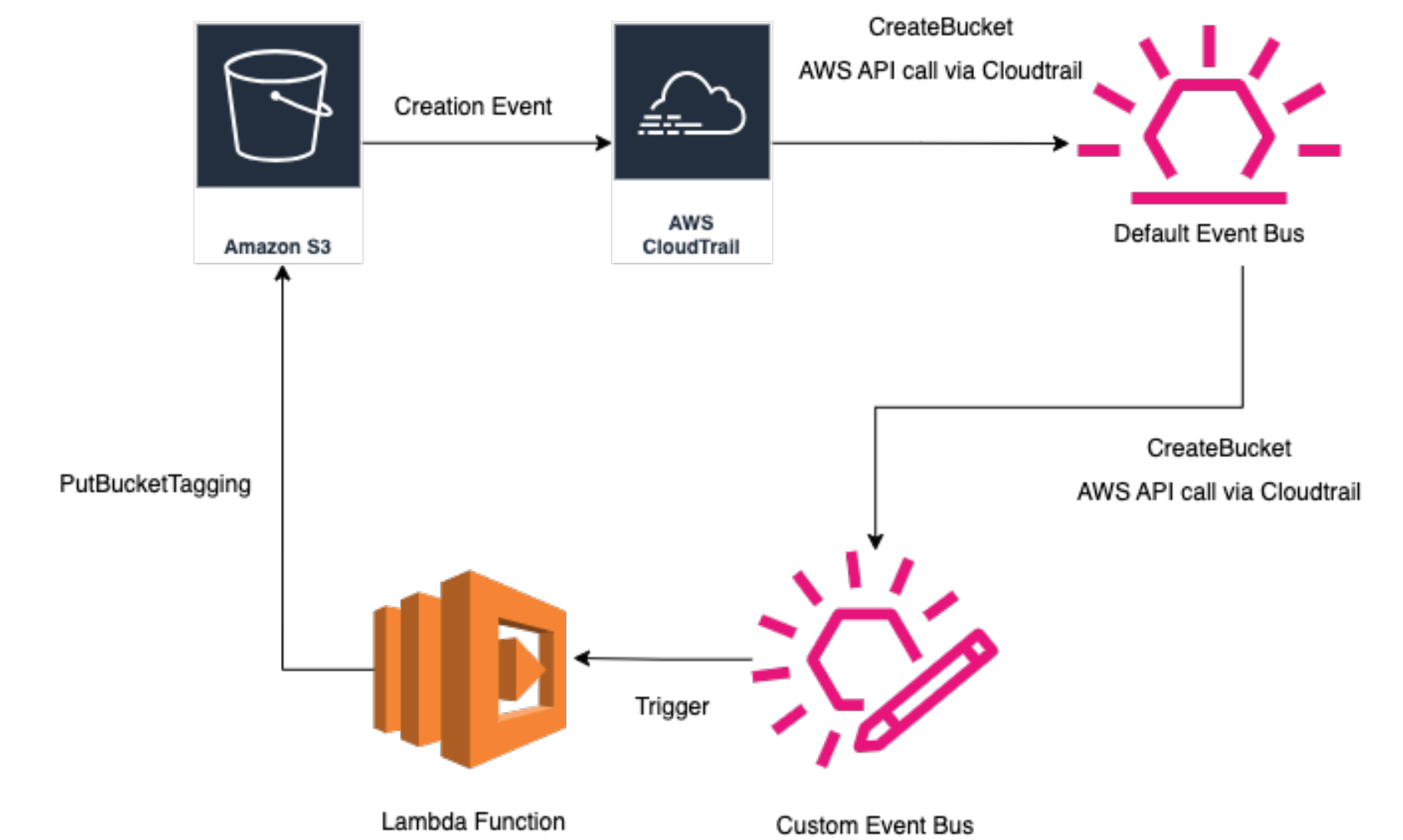
Goal : Automatically tag AWS resources with the email/name of the user who created it at creation

Approach:

- Utilized AWS CloudTrail, Custom Event Bus, Lambda Functions
- Forward the creation event from CloudTrail to custom event bus and extract the user details
- Use resource group tagging API to tag the created resource with the extracted username

Future Scope: Solution can be expanded to include many AWS resources and different tags

Limitations: Manual effort required to include and parse the creation event of every desired AWS resource



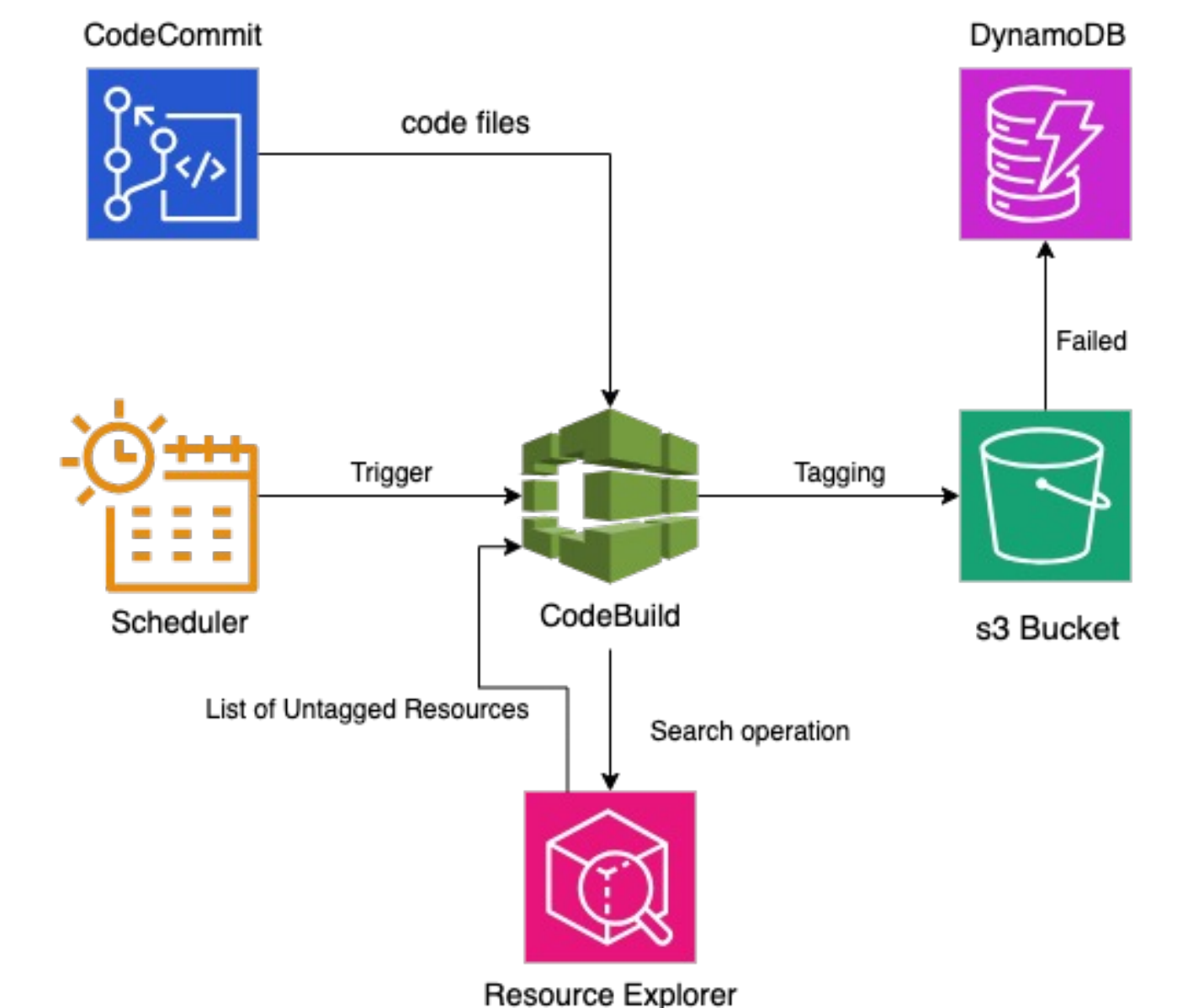
• Resource Tagging across AWS Account

Goal : Automatically tag all AWS resources with a custom account specific cost center tag

Approach:

- Resource Explorer for indexing and searching resources with missing cost center tag
- Resource Group Tagging API to tag resources, DynamoDB tables to store failed resource ARNs
- Event Bridge Scheduler to run the Code Build/Lambda on recurring schedule

Limitations: ResourceGroupTagging API's search query only returns a 1000 resources at max

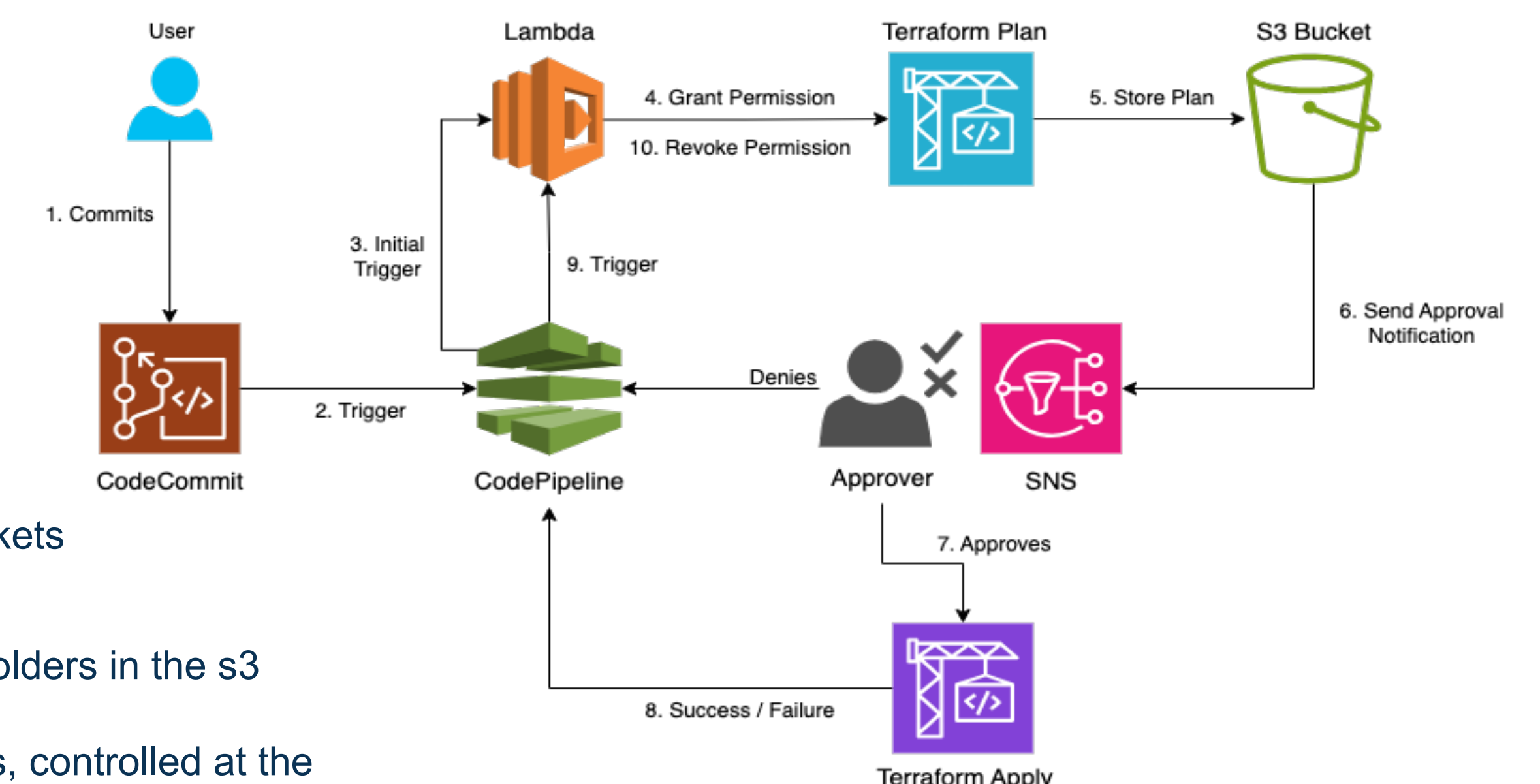


• CI/CD pipeline for Quilt Releases

Goal : To automate the deployment of Quilt releases in AWS with minimum manual effort

Approach:

- Utilized AWS code pipeline to orchestrate the end-to-end flow of the pipeline
- Services used were CodeCommit, CodeBuild, SNS, Lambda
- Dynamic permissions configured to follow least privilege principle



• S3 access control for External Identities

Goal : To define more granular access control for specific AD user groups to s3 buckets

Proposed Approach:

- Utilize s3 access grants feature to provide programmatic access to specific folders in the s3 bucket
- Access Grants allows applications or users/groups to have temporary access, controlled at the prefix/object
- Integration with external identities like OKTA is possible through AWS Identity Center

Limitations: Only programmatic access is supported, need a different approach for console access