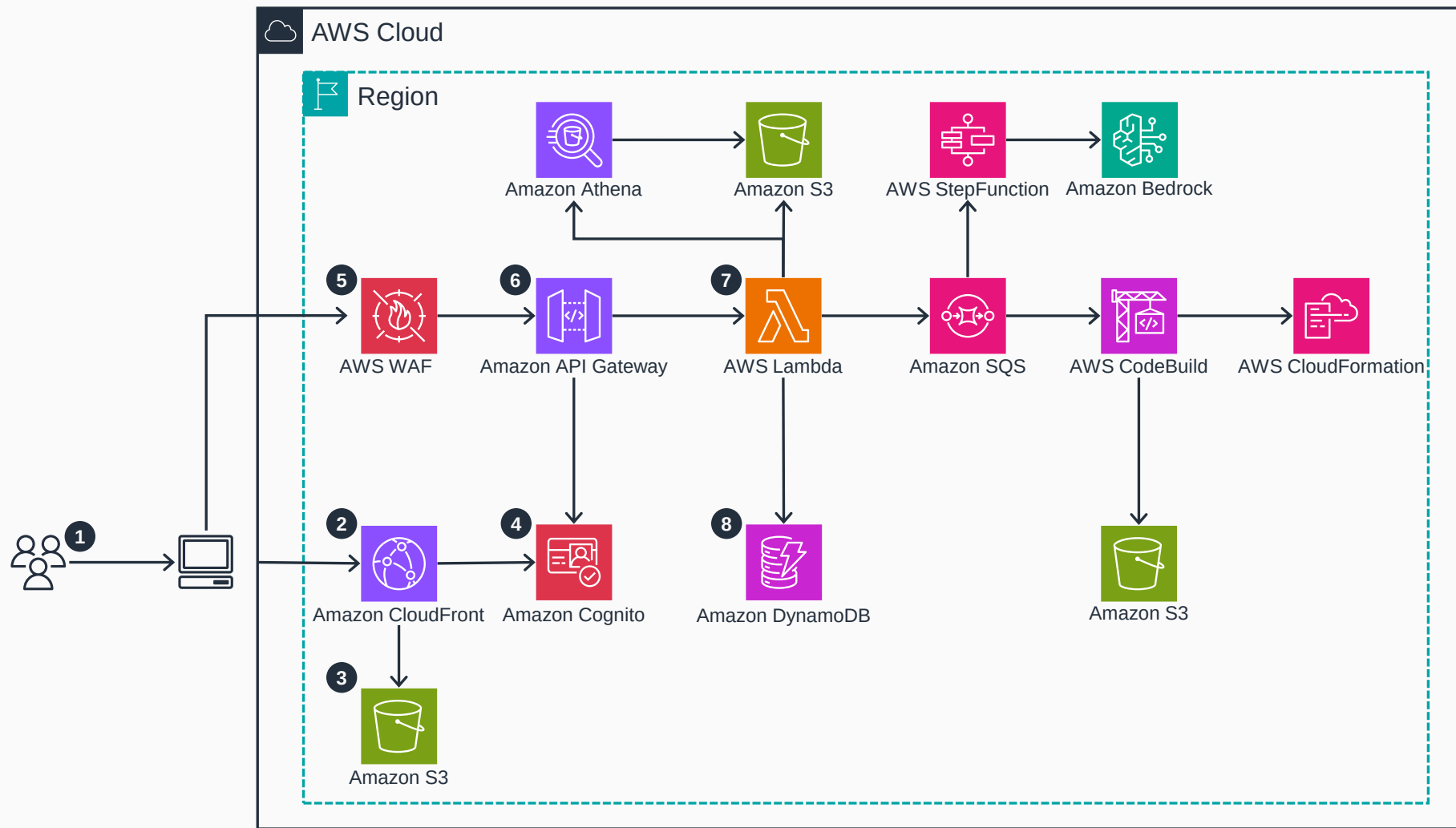


Guidance for Intelligent Applications Modernization Explorer on AWS

This architecture diagram shows how Applications Modernization Explorer uses GenAI to transform organizational data into actionable intelligence, enabling enterprises to reduce modernization risk by identifying the right applications to modernize first, providing modernization pathways, and generating cost estimates.

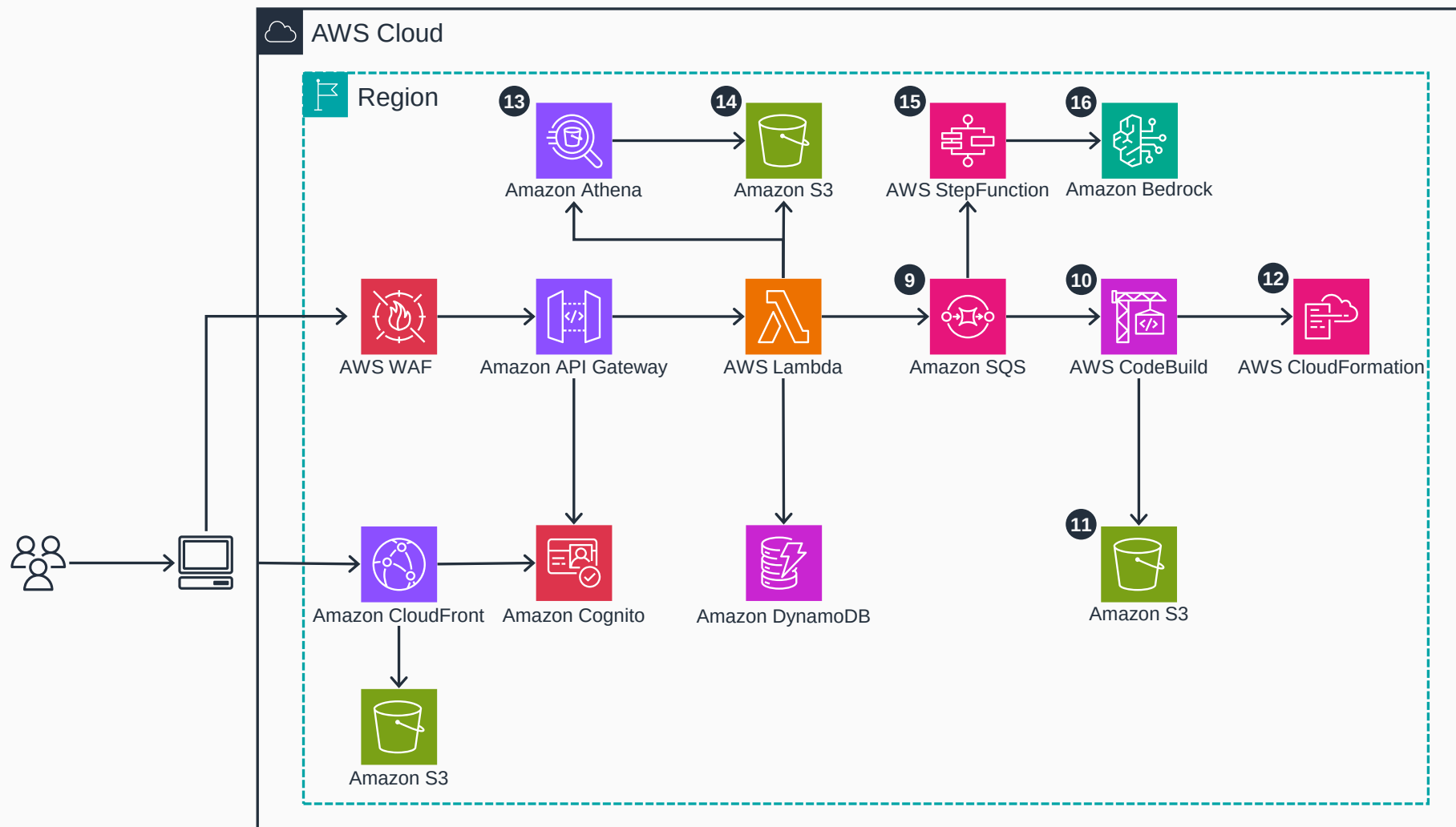


- 1 **User** logs in to the UI, uploads data and uses the UI to access Insights, Tech Stack Similarities, Planning, and Estimates.
- 2 **Amazon CloudFront** caches and distributes content globally from edge locations, reducing latency for end users.
- 3 **Amazon Simple Storage Service** (Amazon S3) serves as the origin storage for static assets like HTML, CSS, JavaScript, and images.
- 4 **Amazon Cognito** manages user registration, authentication, and account recovery. It provides secure sign-in workflows, and password policies. User Pool issues JWT tokens that authorize access to backend APIs and resources, eliminating the need for custom authentication infrastructure.
- 5 **AWS Web Application Firewall** (WAF) protects web applications from common exploits and vulnerabilities. It filters malicious traffic using customizable rules to block SQL injection, cross-site scripting (XSS), bot attacks, and other threats. WAF inspects HTTP/HTTPS requests at the edge before they reach your application infrastructure.
- 6 **Amazon API Gateway** manages all (global and project specific) APIs at scale. It handles request routing, authentication, authorization, throttling, and monitoring.
- 7 Several **AWS Lambda** functions run the code for all the APIs invoked by the frontend, and for the steps in **AWS Step Functions**.
- 8 **Amazon DynamoDB** stores in various tables processed data for both global level (projects, projects share) and project specific level (application similarity, component similarity, pilot identification, TCO and Team estimates, and Process Tracking).



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- 9 **Amazon SQS** decouples synchronous processes from background processes, for example data normalization is triggered on successful upload and transformation of tech stack files.
- 10 **AWS CodeBuild** executes build commands defined in buildspec file to provision ALL the project specific infrastructure (Lambda functions, StepFunctions, **Amazon Athena** tables, SQS queues, etc.)
- 11 Amazon S3 stores the artefacts required by CodeBuild when a new project is created
- 12 **AWS CloudFormation** automates resource creation and deletion invoked by CodeBuild when a project is created or deleted
- 13 Amazon Athena interactive query data directly in Amazon S3 (Skills, Technology Vision, Applications, Tech Stack, Infrastructure, Utilization, Skill Relevance, normalized Tech Stack)
- 14 Amazon S3 stores all the uploaded and transformed files, as well as the Athena query results.
- 15 **AWS Step Functions** orchestrate multiple Lambda functions to parallel process large dataset for Tech Stack normalization, Skill relevance, Application Similarity, Component Similarity, Pilot Identification, and Project Exports
- 16 **Amazon Bedrock** provides access to high-performing foundation models that are in use by Tech Stack normalization, Skills Relevance, and Pilot Identification enhancement processes.

