

AWS Lambda

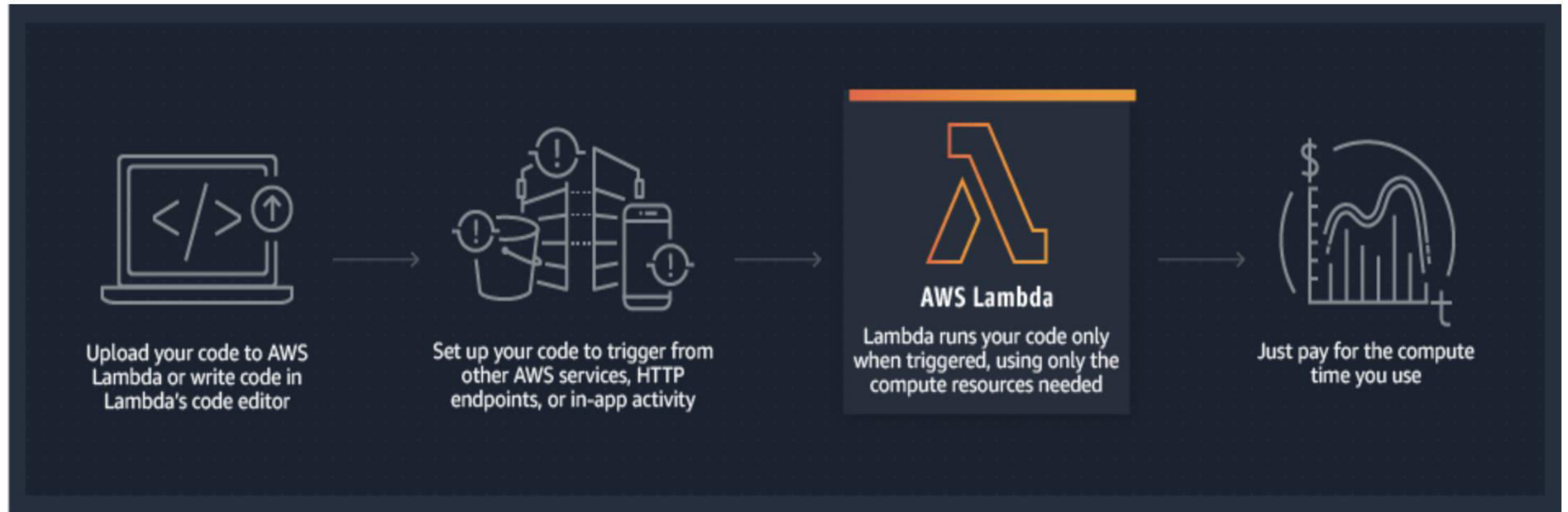
AWS Lambda

- AWS Lambda lets you run code without provisioning or managing servers. You pay only for the compute time you consume - there is no charge when your code is not running.
- With Lambda, you can run code for virtually any type of application or backend service - all with zero administration. Just upload your code and Lambda takes care of everything required to run and scale your code with high availability.
- You can set up your code to automatically trigger from other AWS services or call it directly from any web or mobile app.

AWS Lambda Benefits

- No servers to manage : AWS Lambda automatically runs your code without requiring you to provision or manage servers. Just write the code and upload it to Lambda.
- Continuous scaling : AWS Lambda automatically scales your application by running code in response to each trigger. Your code runs in parallel and processes each trigger individually, scaling precisely with the size of the workload.
- Subsecond metering : With AWS Lambda, you are charged for every 100ms your code executes and the number of times your code is triggered.

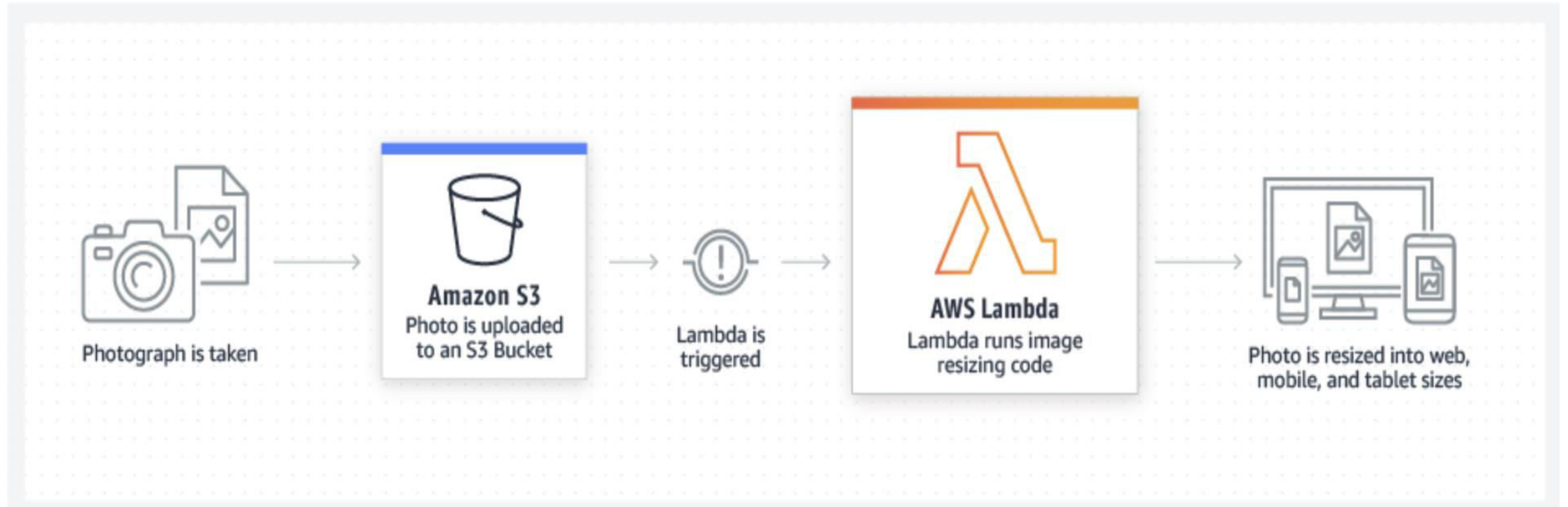
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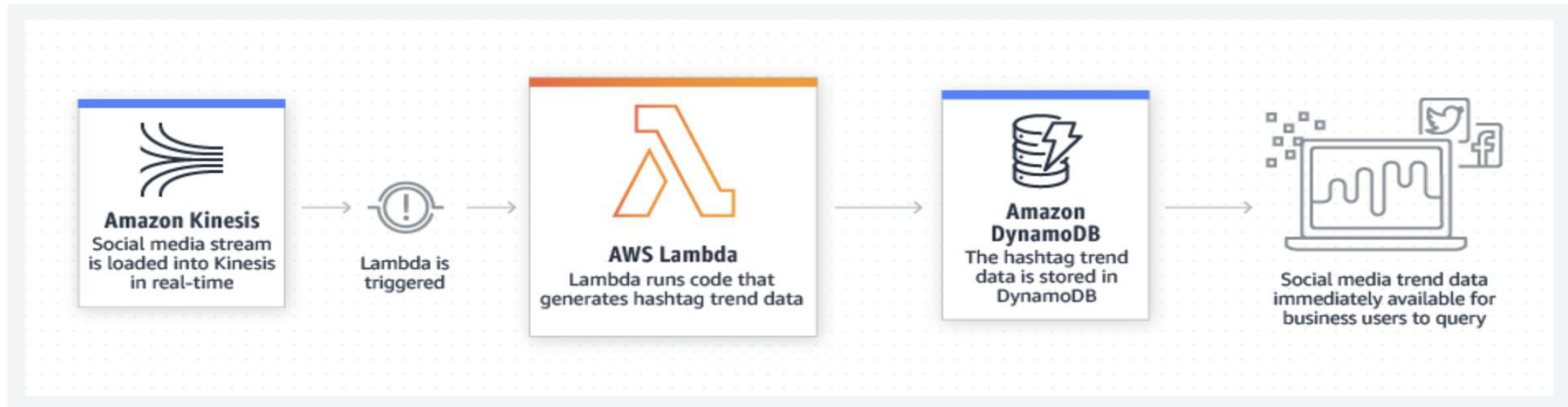
- Use Cases : You can use AWS Lambda to execute code in response to triggers such as changes in data, shifts in system state, or actions by users. Lambda can be directly triggered by AWS services such as S3, DynamoDB, Kinesis, SNS, and CloudWatch.
- You can use Amazon S3 to trigger AWS Lambda to process data immediately after an upload. For example, you can use Lambda to thumbnail images, transcode videos, index files, process logs, validate content, and aggregate and filter data in real-time.

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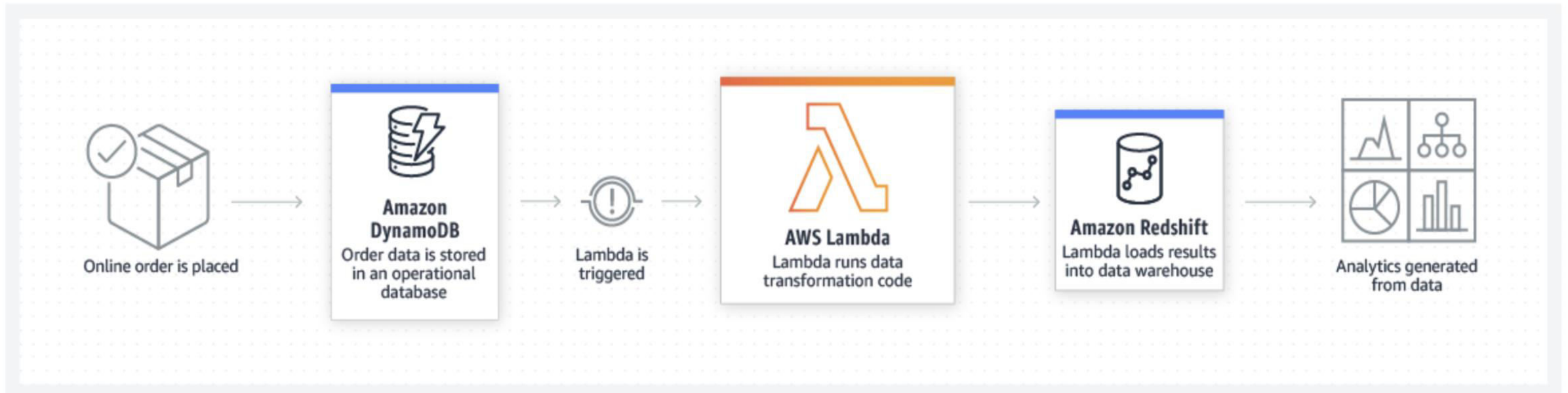
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- You can use AWS Lambda and Amazon Kinesis to process real-time streaming data for application activity tracking, transaction order processing, click stream analysis, data cleansing, metrics generation, log filtering, indexing, social media analysis, and IoT device data telemetry and metering.



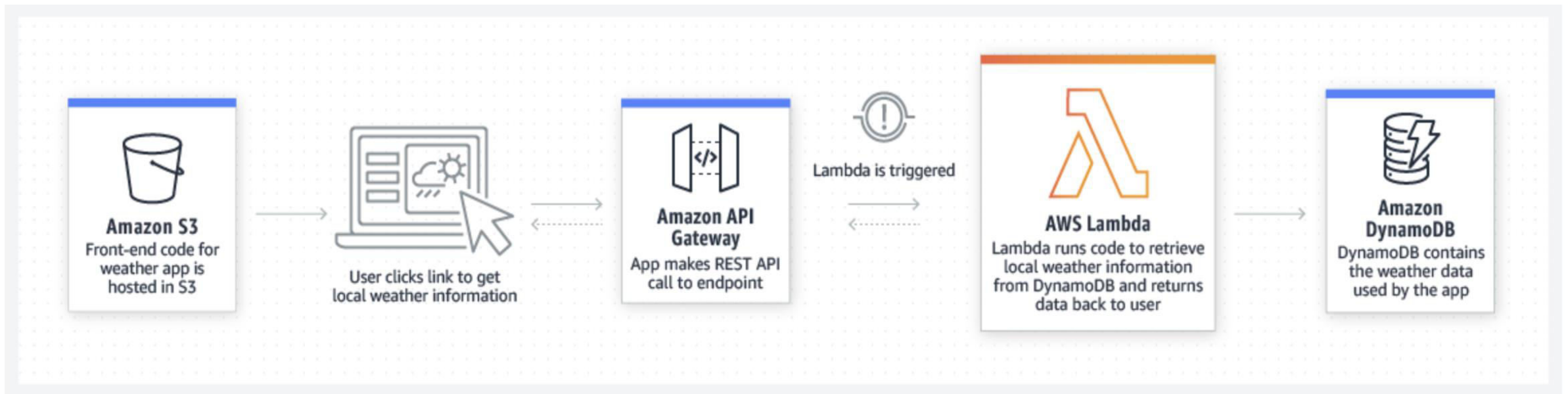
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- You can use AWS Lambda to perform data validation, filtering, sorting, or other transformations for every data change in a DynamoDB table and load the transformed data to another data store. You can call it ETL.



AWS Lambda

- By combining AWS Lambda with other AWS services, developers can build powerful web applications that automatically scale up and down and run in a highly available configuration across multiple data centres – with zero administrative effort required for scalability, backups or multi-data centre redundancy.



AWS Lambda Features

- It is easy to get started with AWS Lambda. First you create your function by uploading your code (or building it right in the Lambda console) and choosing the memory, timeout period, and AWS Identity and Access Management (IAM) role. Then, you specify the AWS resource to trigger the function, either a particular Amazon S3 bucket, Amazon DynamoDB table, or Amazon Kinesis stream. When the resource changes, Lambda will run your function and launch and manage the compute resources as needed in order to keep up with incoming requests.

AWS Lambda Features

- You can use AWS Lambda to create new back-end services for your applications that are triggered on-demand using the Lambda API or custom API endpoints built using Amazon API Gateway. By using Lambda to process custom events instead of servicing these on the client, you can avoid client platform variations, reduce battery drain, and enable easier updates.
- Lambda natively supports Java, Go, PowerShell, Node.js, C#, Python, and Ruby code, and provides a Runtime API which allows you to use any additional programming languages to author your functions.

AWS Lambda Features

- With Lambda, you never have to update the underlying OS when a patch is released, or worry about resizing or adding new servers as your usage grows. AWS Lambda seamlessly deploys your code, does all the administration, maintenance, and security patches, and provides built-in logging and monitoring through Amazon CloudWatch.
- AWS Lambda invokes your code only when needed and automatically scales to support the rate of incoming requests without requiring you to configure anything. Since your code is stateless, Lambda can start as many instances of it as needed without lengthy deployment and configuration delays.

AWS Lambda Features

- With Lambda@Edge, AWS Lambda can run your code across AWS locations globally in response to Amazon CloudFront events, such as requests for content to or from origin servers and viewers. This makes it easier to deliver richer, more personalized content to your end users with lower latency.
- AWS Lambda allows your code to securely access other AWS services through its built-in AWS SDK and integration with AWS Identity and Access Management (IAM). AWS Lambda runs your code within a VPC by default. You can optionally also configure AWS Lambda to access resources behind your own VPC, allowing you to leverage custom security groups and network access control lists to provide your Lambda functions access to your resources within a VPC.

AWS Lambda – Versions and Alias

- You can use versions to manage the deployment of your AWS Lambda functions. For example, you can publish a new version of a function for beta testing without affecting users of the stable production version.

The function version includes the following information:

- The function code and all associated dependencies.
- The Lambda runtime that executes the function.
- All of the function settings, including the environment variables.
- A unique Amazon Resource Name (ARN) to identify this version of the function.

AWS Lambda – Versions and Alias

- You can create one or more aliases for your AWS Lambda function. A Lambda alias is like a pointer to a specific Lambda function version. Users can access the function version using the alias ARN.
- Each alias has a unique ARN. An alias can only point to a function version, not to another alias. You can update an alias to point to a new version of the function.
- Use routing configuration on an alias to send a portion of traffic to a second function version. For example, you can reduce the risk of deploying a new version by configuring the alias to send most of the traffic to the existing version, and only a small percentage of traffic to the new version.