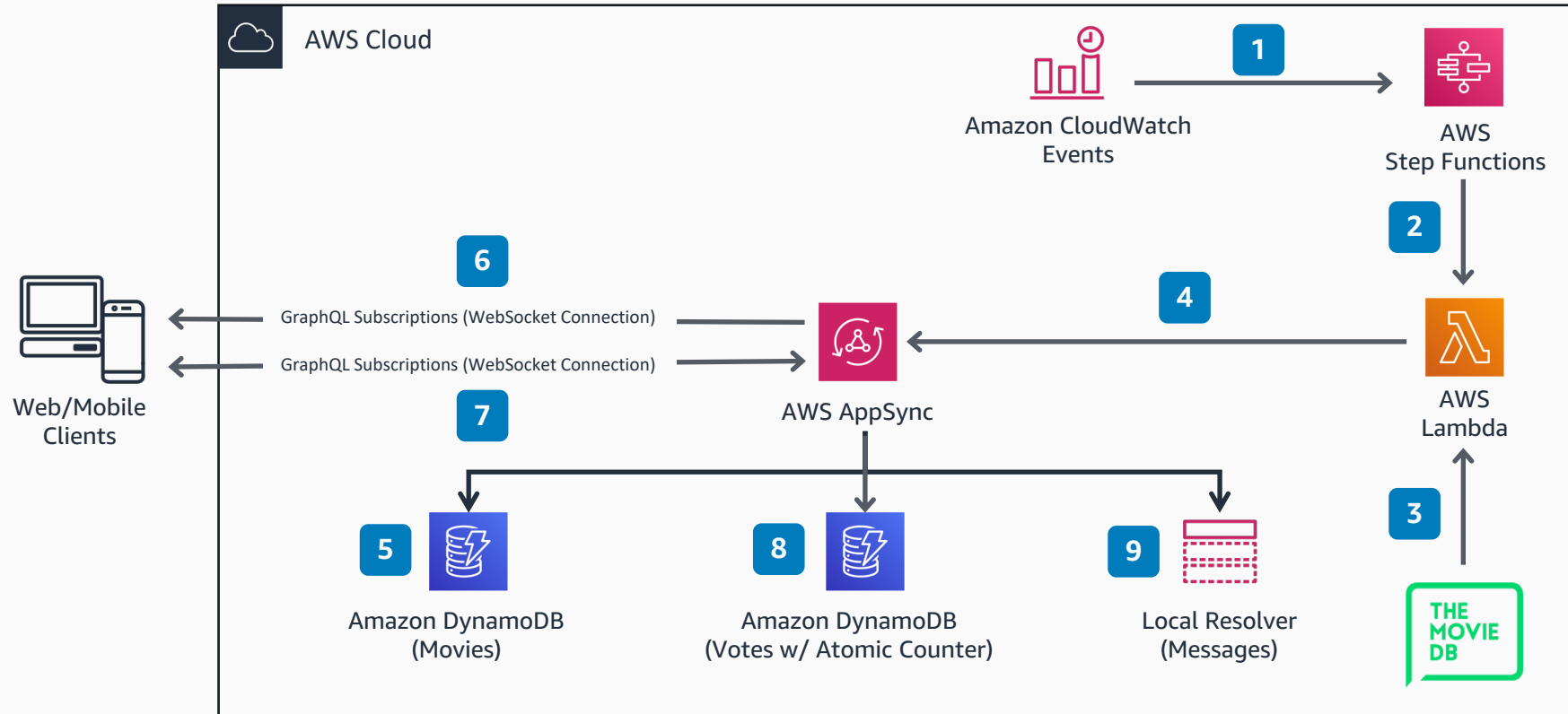


Serverless Web App Real-Time Data Broadcasting

AWS AppSync Real-Time Reference Architecture

Create a movie voting application using AWS AppSync, AWS Lambda, AWS Step Functions, and Amazon DynamoDB. Leverage back-end and client facing real-time broadcasting with managed GraphQL subscriptions over WebSockets.



<https://github.com/aws-samples/appsync-refarch-realtime>

- 1 **Amazon CloudWatch Events** initiate a workflow in **AWS Step Functions** every 60 seconds.
- 2 **AWS Step Functions** trigger **AWS Lambda** every 10 seconds.
- 3 **Lambda** calls The Movie DB API to retrieve metadata for a single random movie from the most popular movies list.
- 4 **Lambda** updates the Movie table, zeroes current votes, and upvotes the leaderboard in the Votes table via GraphQL mutations to AppSync.
- 5 AppSync updates the Movie table with the single current movie retrieved from **Lambda**.
- 6 All connected clients subscribed to the back-end mutation see the same current movie poster and synopsis on screen (broadcast).
- 7 Clients vote on the current movie during a 10-second window, and can send and receive chat messages in a public chatroom.
- 8 **Lambda** updates the leaderboard and client's movie votes via AppSync mutations.
- 9 The public chatroom displays current messages on a pub/sub channel via Local Resolver. Messages are not persisted on back-end storage, only new messages are displayed.



Reviewed for technical accuracy March 24, 2021

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AWS Reference Architecture