AWS re:Invent

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SVS206

Build a serverless real-time shipment tracking application

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Session goal

Learn how to build a serverless application that displays the location of your shipment in real time, sends notifications when your shipment is late, and can simulate traffic conditions.

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Agenda

- Real-time shipment tracking service in a fictitious company
- Intro to Amazon Location Service
- End-to-end serverless shipment tracking application architecture
- Implementation code highlights
- Demo
- Q&A

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Amazon Location Service

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Amazon Location Service

Maps

MapLibre GL



Places

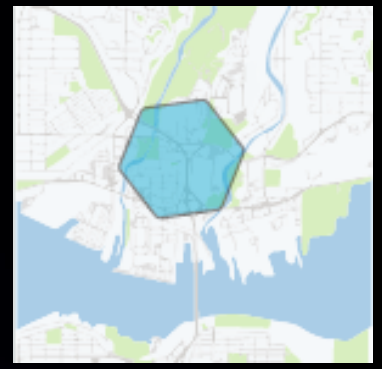
Geocoding
latitude and longitude



Routing



Geofence collections



Trackers

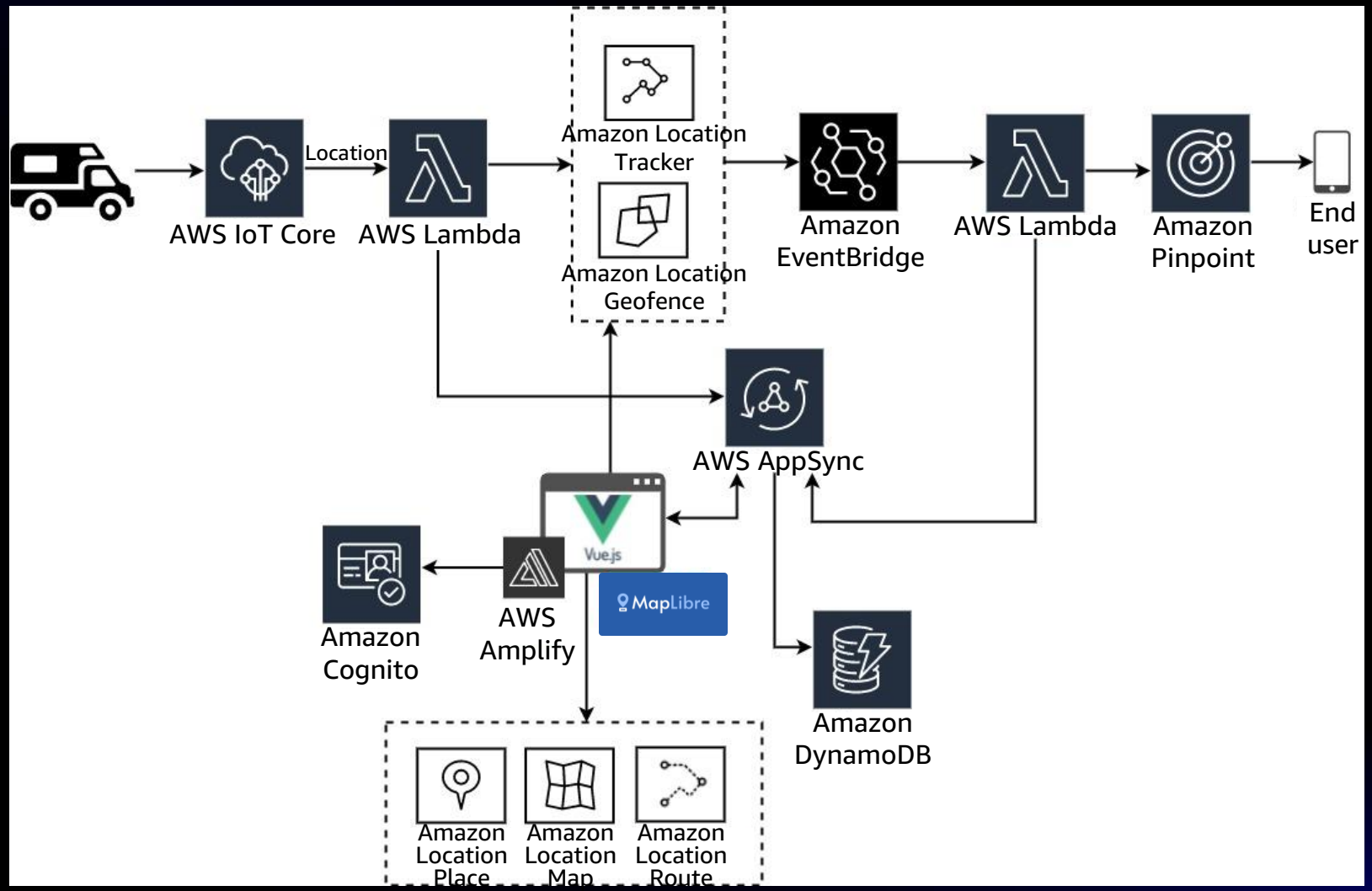


- External queries are anonymized
- Choice of data provider
- Data ownership - storing of Places results is permitted in AWS

- Data Does Not leave AWS account

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End-to-end serverless shipment tracking application architecture



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Implementation code highlights

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Maps implementation code

Maps

MapLibre GL



MapLibre GL

```
<div id="markmap" style="width: 100%;height: 40vw">
</div> this.map = new maplibregl.Map({ container: "markmap",
center: this.center, zoom: this.zoom, style:
process.env.VUE_APP_MAP, transformRequest: this.transformRequest,
});

transformRequest(url, resourceType) { if (resourceType === "Style"
&& !url.includes("://")) { // resolve to an AWS URL url =
"https://maps.geo." + awsconfig.aws_project_region +
".amazonaws.com/maps/v0/maps/" + url + "/style-descriptor"; } if
(url.includes("amazonaws.com")) { // only sign AWS requests (with
the signature as part of the query string) return { url:
Signer.signUrl(url, { access_key: this.credentials.accessKeyId,
secret_key: this.credentials.secretAccessKey, session_token:
this.credentials.sessionToken, }), }; } // Don't sign return {
url: url || "" }; },
```

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Places implementation code

Places

Geocoding
latitude and longitude



PlaceIndex

```
searchCoords(text, category) { let
longitude = -123.11335999999994; let
latitude = 49.260380000000055;

this.locationService.searchPlaceIndexForTex
t( { IndexName: process.env.VUE_APP_PLACES,
Text: text, MaxResults: 1, BiasPosition:
[longitude, latitude], } )
```

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Routing implementation code

Routing



```
Route Calculation:

var params = { CalculatorName:
process.env.VUE_APP_ROUTER, DeparturePosition: [
depLngLat.lng, depLngLat.lat, ],
DestinationPosition: [ destLngLat.lng,
destLngLat.lat, ], DepartNow: false,
IncludeLegGeometry: true, TravelMode: 'Car' };

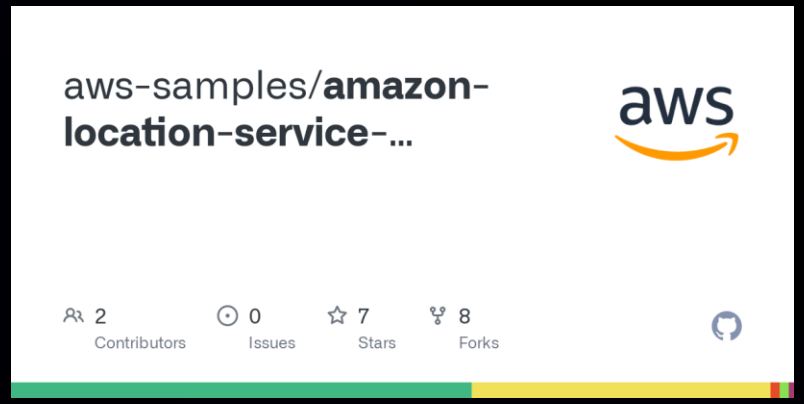
this.locationService.calculateRoute(params,
function(err, data)
```

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Resources

Code repository:
https://github.com/aws-samples/amazon-location-service-geotrack-vuejs

SCAN ME



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Additional sessions

BOA302: Build an app to find your next favorite brew

FWM203-R2: Build extensible full-stack apps with AWS Amplify and AWS CDK

FWM204: Building the re:Invent app with Amazon Location Service

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Thank you!

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