Building Serverless Web Applications with AWS Amplify

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What is AWS Amplify?

AWS Amplify is a CLI & Toolchain for the client

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What Does it Do?

CLI

Creates & configures AWS services

What Does it Do?

JavaScript Library

Connects your front-end application to cloud services

What kind of services?

- ✓ Database
- ✓ API
- ✓ Lambda / Serverless
- ✓ Authentication
- ✓ Analytics
- ✓ Hosting
- ✓ Storage

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Authentication

Amazon Cognito

- ✓ Create & configure new Amazon Cognito resources for user signup & signin
- ✓ Interact with Amazon Cognito using Auth class from client Library
- ✓ Pre-configured components available for React, React Native, Angular, & Ionic

Analytics

Amazon Pinpoint

- ✓ Create & configure new Amazon Pinpoint resources
- ✓ Record events from the client application
- ✓ Automatically records session data
- ✓ Automatically records auth data (sign ups, sign ins, & auth failures)

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REST API

AWS Lambda + Amazon API Gateway

- ✓   Create new AWS Lambda Function
- ✓   Scaffold Lambda code
- ✓   Configure API Gateway
- ✓   Interact with Lambda function with client Library

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GraphQL API

AWS AppSync

- ✓ Create new AWS AppSyncGraphQL API
- ✓ Configure AppSync
- ✓ Perform queries, mutatations, & register subscriptions from client application
- ✓ React & React Native Components for render props

Database API

Amazon DynamoDB + AWS Lambda + Amazon API Gateway

- ✓ Create & configure table
- ✓ Create Lambda function
- ✓ Configure API Gateway
- ✓ Scaffolds Lambda code to act as REST API
- ✓ Interact with Lambda Function using client Library

Function

AWS Lambda

- ✓ Create & configure Lambda functions
- ✓ Push changes
- ✓ Invoke functions locally
- ✓ Interact with Lambda function from using client library

Hosting

Amazon S3

- ✓ Creates & configure S3 bucket for hosting
- ✓ Configure Amazon Cloudfront
- ✓ Publishes assets to S3
- ✓ Push updates when necessary directly from CLI

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Storage

Amazon S3

- ✓ Create & configure Amazon S3 bucket
- ✓ Manage user content for your app in public, protected or private storage buckets

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AWS Amplify CLI

Installing the CLI

```
npm i -g amplify-cli
```

AWS Amplify CLI

Getting started

Initializing a new project

```
amplify init
```

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AWS Amplify CLI

Getting started

Adding a feature

```
amplify add auth
```

AWS Amplify Client Library

Getting started

Add library to project

```
npm install aws-amplify
```

AWS Amplify Client Library

Getting started

Add framework-specific library

```
npm install aws-amplify-react
```

AWS Amplify Client Library

Import component

```
import { Auth } from 'aws-amplify'
```

AWS Amplify Client Library

Getting started

Interact with services

```
Auth.signIn({
    username: this.state.username,
    password: this.state.password
})
.then(success => console.log('user successfully signed in!'))
.catch(err => console.log('error signing in user...', err)
```

AWS Amplify

" This CLI & toolchain for the client greatly lowers the barrier to entry for developers & companies looking to build full-stack applications allowing them to not only iterate & experiment quickly, but also giving them the ability to do so at a lower cost. "

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