

Jfokus 2014

NoSRV Architecture: Dynamic web applications without backend servers

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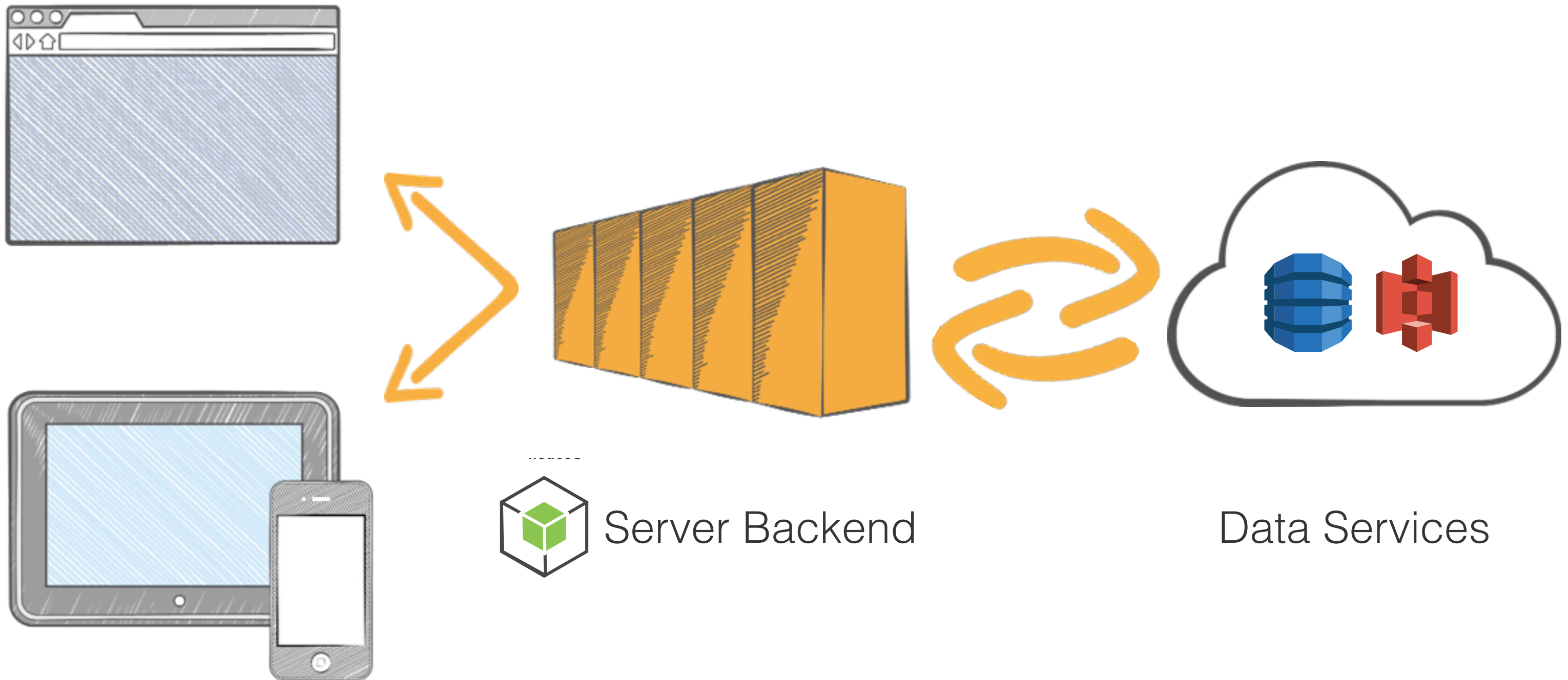
JavaScript
is everywhere.





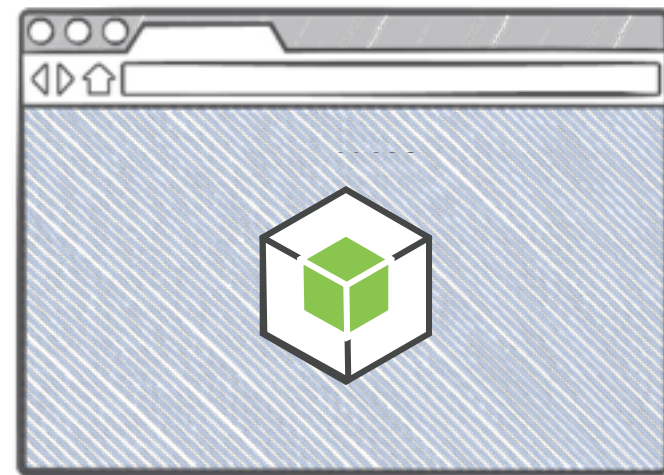
AWS SDK for
JavaScript in Node.js

Traditional Application Architecture

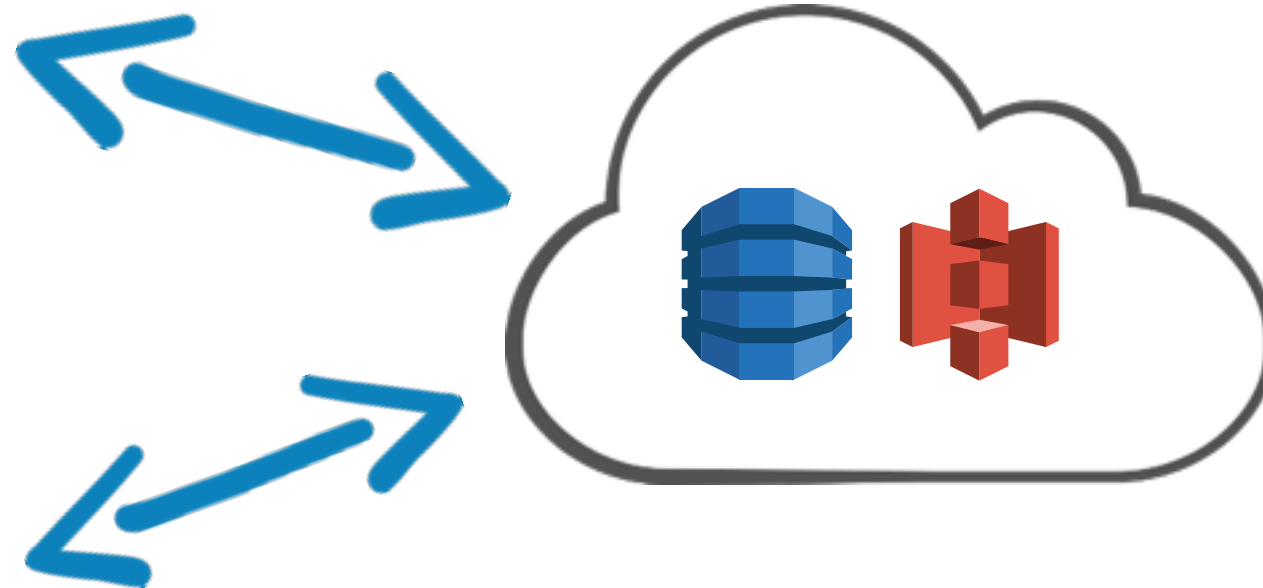


Two-Tier Web Applications

Two-Tier Application Architecture



SDK on the Device



Benefits

Fewer moving parts

Easy prototyping

Deploying as simple as
copying files to Amazon S3

Fully dynamic app for
pennies a month

App Ideas

Forum Software

Blog Commenting Service

Blogging Platform

Firefox/Chrome Extensions

WinRT (Metro Style) Apps

Any Mobile App!

New



AWS SDK for

JavaScript in the Browser

Desktop or mobile devices

Developer Preview

Looking for Feedback

Open Source

Apache License, Version 2.0

<http://github.com/aws/aws-sdk-js>

Getting the SDK

```
<script src="https://sdk.amazonaws.com/js/aws-sdk-2.0.0-rc9.min.js" />
```

5 Supported Services

Amazon S3

Amazon DynamoDB

Amazon SQS

Amazon SNS

AWS STS

All Modern Browsers



28.0+



23.0+



10+



17.0+



5.1+

Let's Look at a Web Application

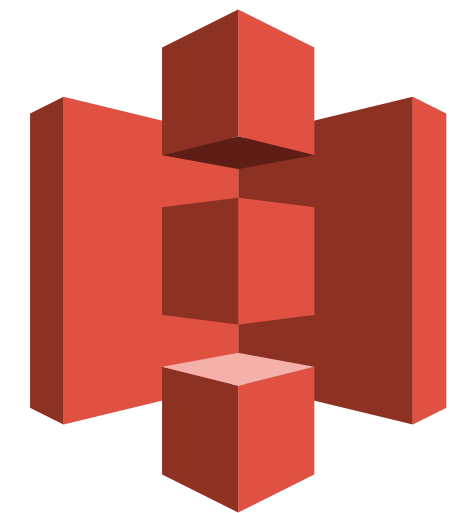
Using nothing but
HTML, CSS, and JavaScript

A Simple Blog

Content stored in Amazon DynamoDB



Assets in Amazon S3



Key Differences

Three-Tier to Two-Tier

Security Challenges

CORS in the browser

Credentials on device

Fine grained policies

Cross-Origin Resource Sharing

CORS

Browser sends pre-flight request to external host.

Host acknowledges browser.

Browser sends XHR request.

Configuring CORS on Amazon S3

CORS Configuration Editor

Cancel

CORS Configuration for Bucket : "lorenfoo"

Using [CORS](#) (Cross-Origin Resource Sharing) you can selectively allow web applications running on other domains to access content in your Amazon S3 bucket. Each CORS rule must contain the set of [origins/domains](#) and [HTTP methods](#) you want to allow for those origins. Optionally, you can also specify the headers users can [set in requests](#) or [access in responses](#) and the [duration](#) the preflight responses should be cached.

Edit the existing CORS configuration for this bucket in the text area below.

```
<?xml version="1.0" encoding="UTF-8"?>
<CORSConfiguration xmlns="http://s3.amazonaws.com/doc/2006-03-01/">
  <CORSRule>
    <AllowedOrigin>*</AllowedOrigin>
    <AllowedMethod>GET</AllowedMethod>
    <AllowedMethod>PUT</AllowedMethod>
    <AllowedMethod>POST</AllowedMethod>
    <AllowedMethod>DELETE</AllowedMethod>
    <AllowedHeader>*</AllowedHeader>
  </CORSRule>
</CORSConfiguration>
```

[Sample CORS Configurations](#)

Save Delete Close

Getting Credentials Onto Your Device

Getting
Credentials
Onto Your
Device

Never hardcode
credentials
Use Web Identity
Federation

Web Identity Federation

Use Facebook, Google, or log in with Amazon as third-party identity providers

AWS.WebIdentityCredentials

JS

```
AWS.config.credentials = new AWS.WebIdentityCredentials({  
  RoleArn: 'arn:aws:iam::<ACCOUNT_ID>:role/<ROLE_NAME>',  
  ProviderId: 'graph.facebook.com',  
  WebIdentityToken: fbAccessToken  
});
```


Get a Facebook Access Token

JS

```
// 1. Load the FB JS SDK
// 2. Call FB.login()
FB.login(function (response) {
  if (response.authResponse) {
    fbAccessToken = response.authResponse.accessToken;
    AWS.config.credentials = new AWS.WebIdentityCredentials({...});
  });
```

Same Concept

For other identity providers

Fine Grained Policies

Admin Role Policy

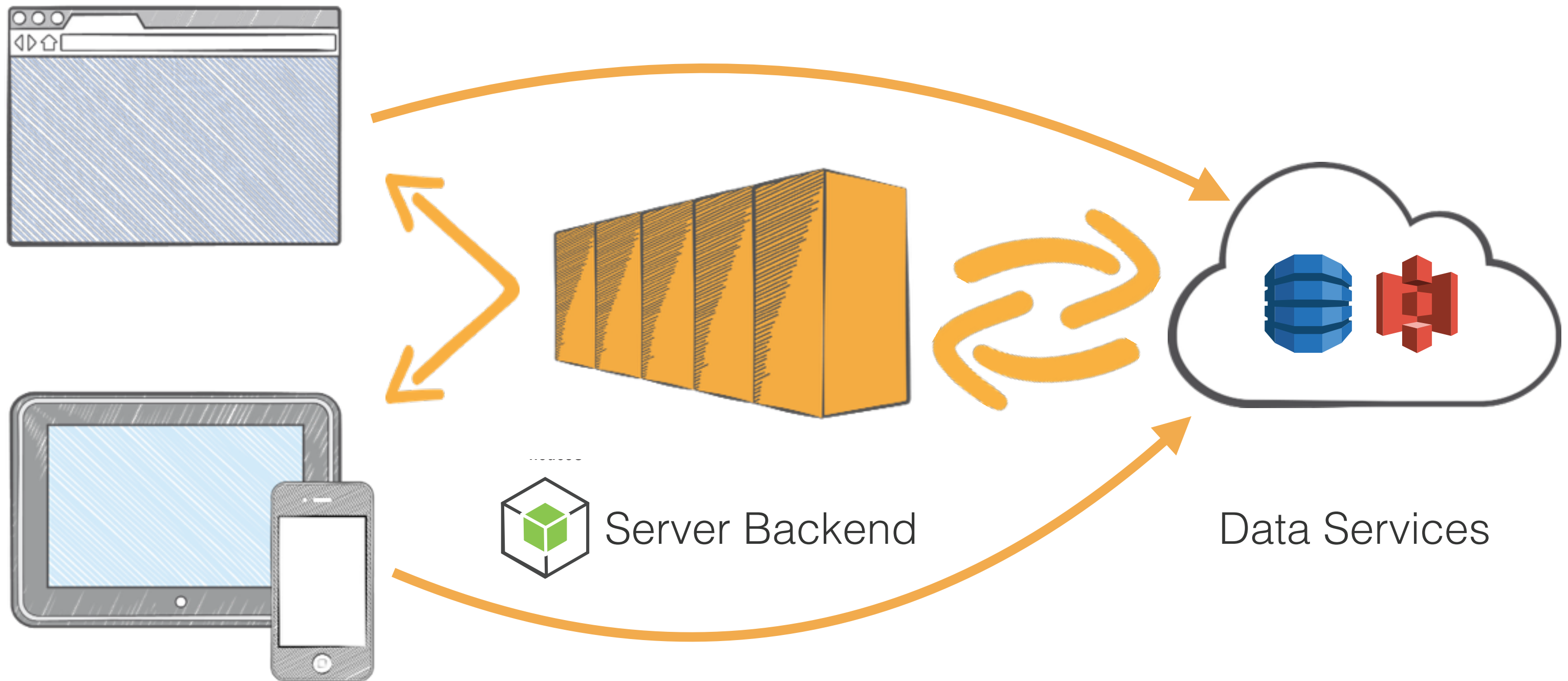
JS

```
{  
  "Effect": "Allow",  
  "Action": [  
    "dynamodb:PutItem",  
    "dynamodb>DeleteItem"  
  ],  
  "Resource": [  
    "arn:aws:dynamodb:<reg>:<acct>:table/<tbl>"  
  ]  
}
```

```
{  
  "Effect": "Allow",  
  "Action": [  
    "s3:PutObject",  
    "s3:PutObjectAcl"  
  ],  
  "Resource": [  
    "arn:aws:s3:::<bucket>/<prefix>"  
  ]  
}
```

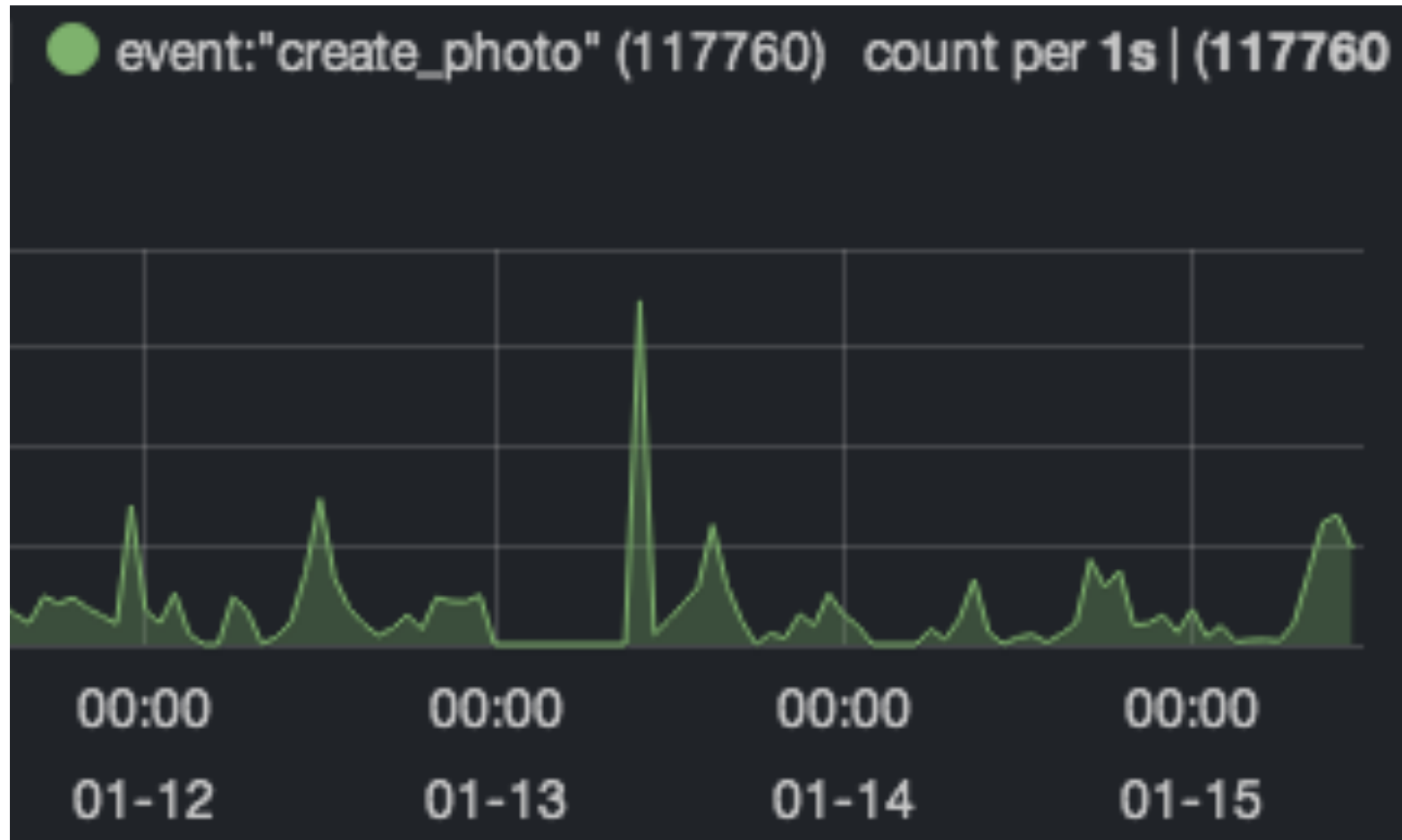
You Can
Use it Too!
(It's not all or nothing)

2.5 Tier Application Architecture





Narrative



<http://getnarrative.com/>



Our Community

We 

Open Source

[https://github.com/
aws/aws-sdk-js](https://github.com/aws/aws-sdk-js)

Contributing to the SDK

Improve Documentation
Report Issues
Submit Pull Requests
Third-Party Plugins

Code More!