Jfokus 2014

NoSRV Architecture: Dynamic web applications without backend servers

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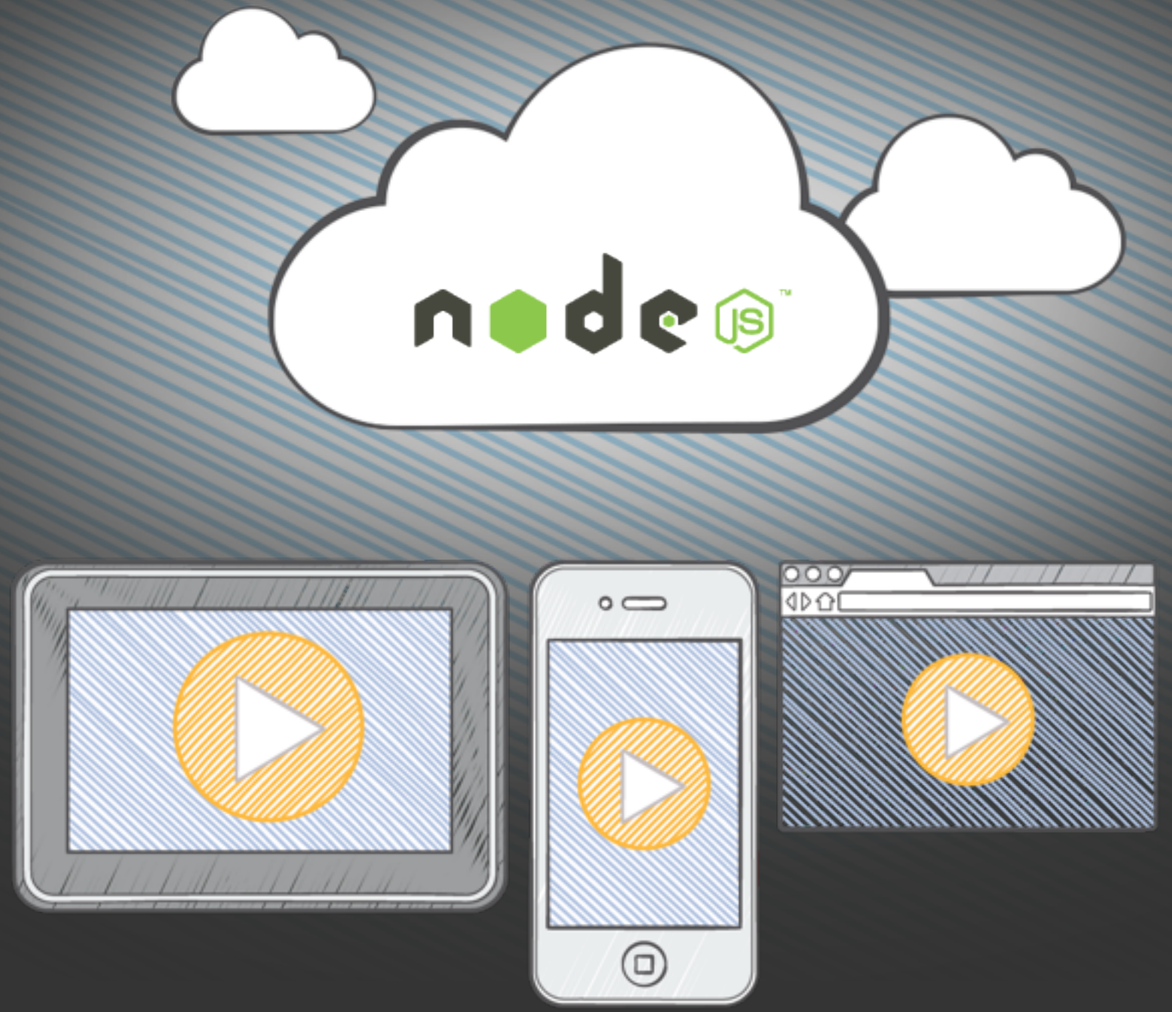
February 5th, 2014

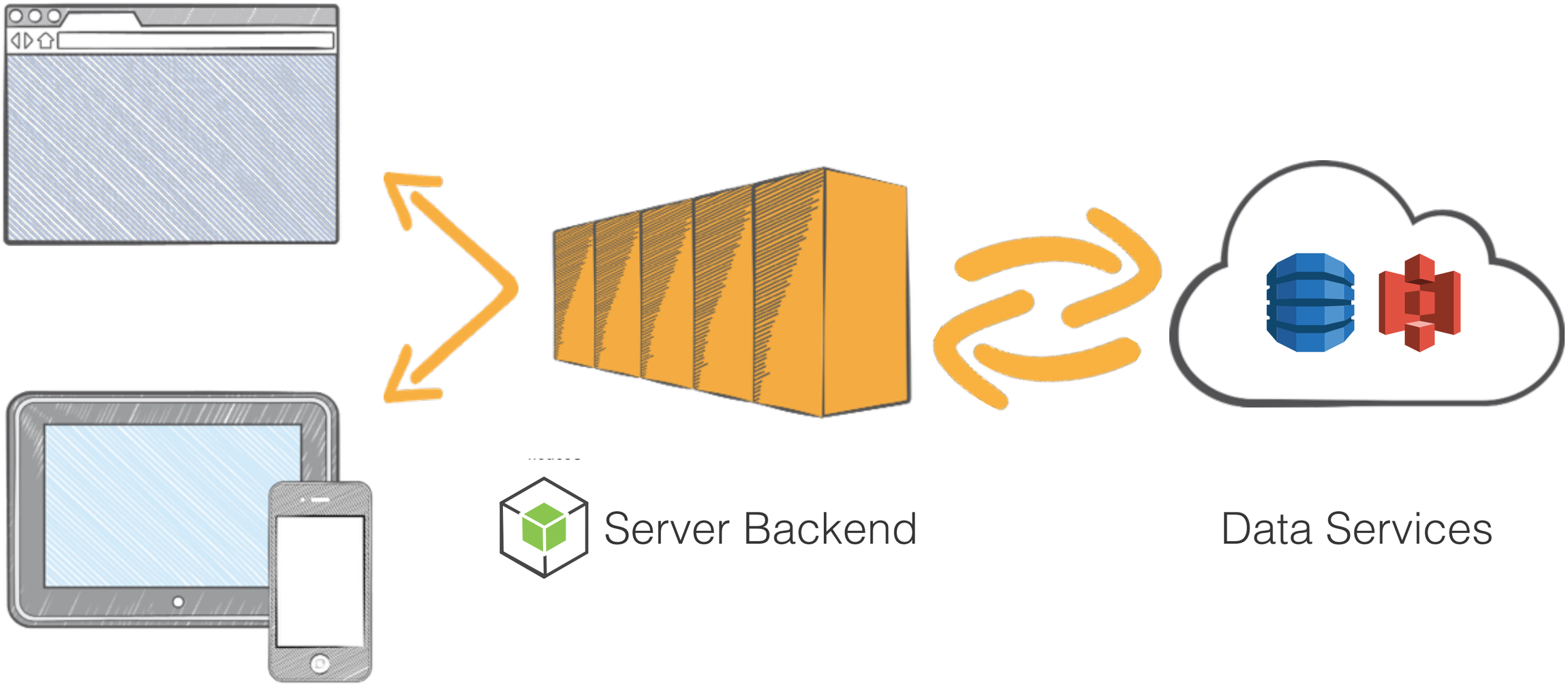
amazon web services

JavaScript is everywhere.



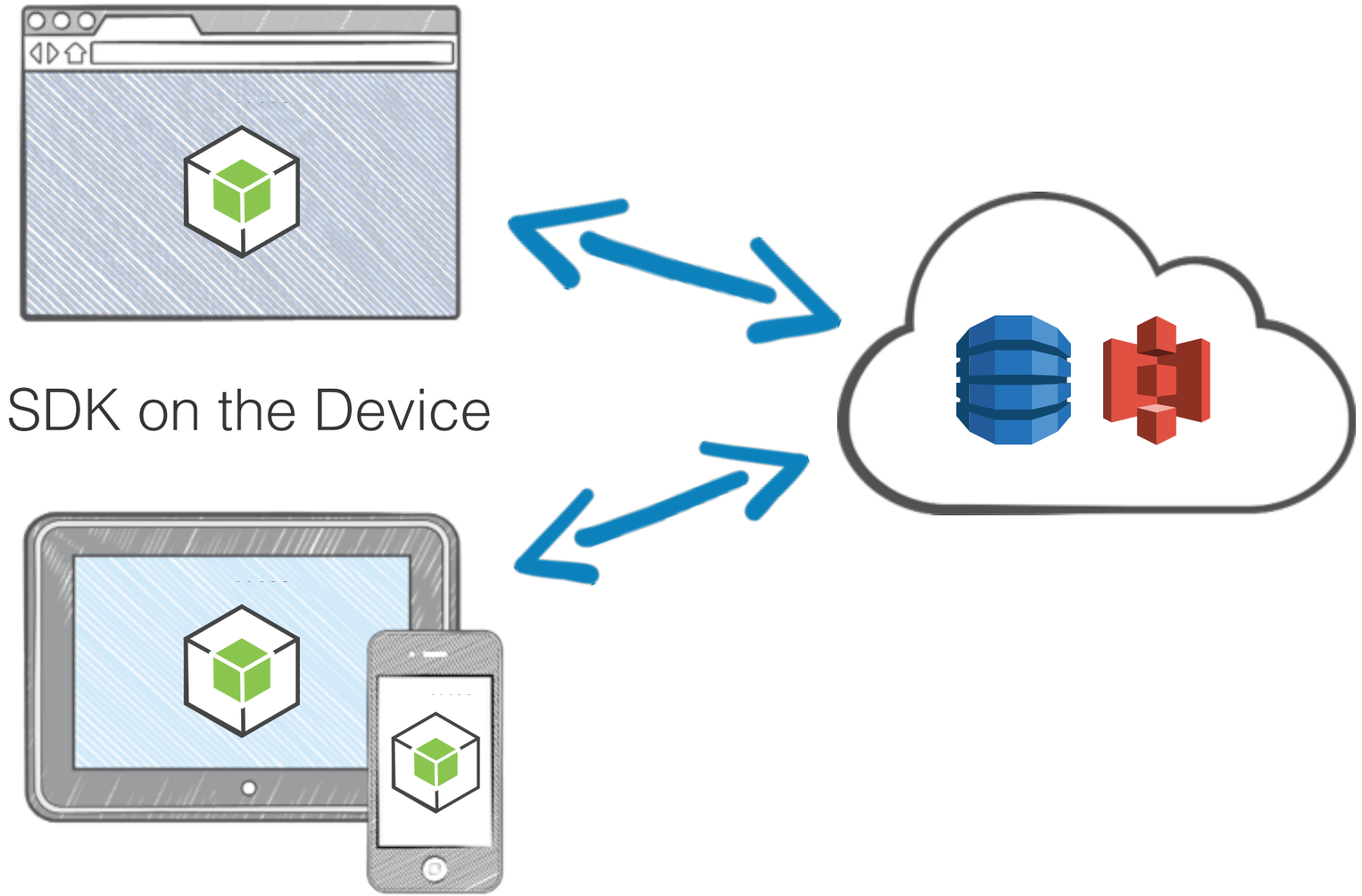
AWS SDK for JavaScript in Node.js

Traditional Application Architecture



Two-Tier Web Applications

Two-Tier Application Architecture



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+

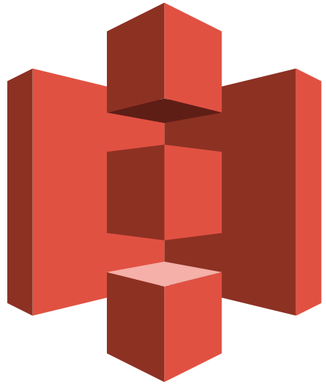
Let's Look at a Web Application

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

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

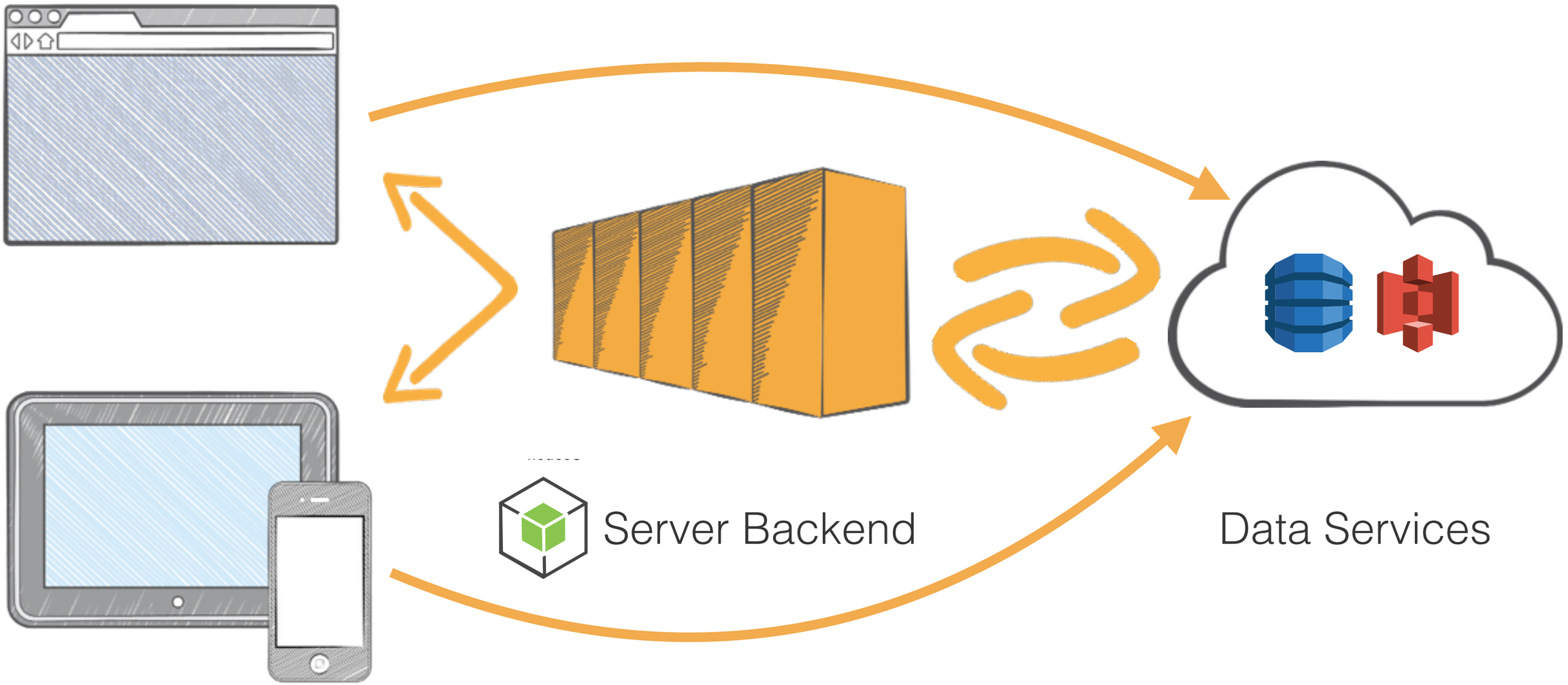
```
{
   "Effect": "Allow",
    "Action": [
        "dynamodb:PutItem",
        "dynamodb:DeleteItem"
    ],
    "Resource": [
       "arn:aws:dynamodb:<reg>:<accnt>:table/<tbl>"
    ]
}
```

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

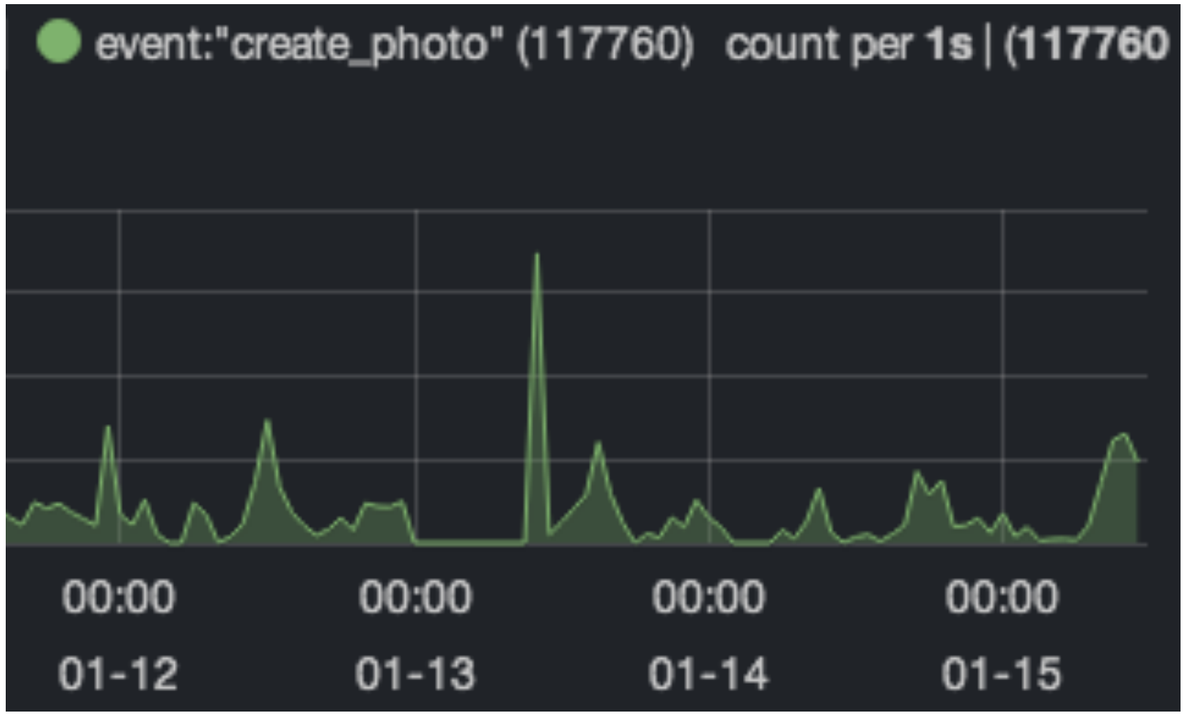
You Can Use it Too!

(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

Contributing to the SDK

Improve Documentation

Report Issues

Submit Pull Requests

Third-Party Plugins

Code More!