

[JAWS-UG青森]ハンズオン勉強会

モバイルアプリ編 - AWS Mobile Hub -

2016/10/28 (金) 18:30 - 20:30

今回のハンズオンは...

流れ

1. AWS Mobile Hubの説明
2. サンプルアプリをダウンロード＆動作確認（←ここまで必須）
3. 簡単なクイズアプリを作つてみる（←任意）

注意

- Windows環境での開発サポートは、時間がかかるかもしれません
いので、あらかじめご了承ください...

AWS Mobile Hubの説明

コンソール画面を見てみましょう

ログイン

- アカウント持ってる人は自分のアカウントでログインしてください
- 持っていない人は、運営側で用意したユーザーを使用してログインしてください（別紙参照）

サービス一覧画面を見てみましょう

アマゾン ウェブ サービス

コンピューティング

- EC2** クラウド内の仮想サーバー
- EC2 Container Service** Docker コンテナの実行と管理
- Elastic Beanstalk** ウェブアプリの実行と管理
- Lambda** サーバーレスでコードを実行

ストレージ & コンテンツ配信

- S3** スケーラブルなクラウドストレージ
- CloudFront** グローバルなコンテンツ配信ネットワーク
- Elastic File System** EC2 向け完全マネージド型ファイルシステム
- Glacier** クラウド内のアーカイブストレージ
- Snowball** 大容量データの転送
- Storage Gateway** ハイブリッドストレージの統合

データベース

- RDS** マネージド型リレーションナルデータベースサービス
- DynamoDB** マネージド NoSQL データベース
- ElastiCache** インメモリキャッシュ
- Redshift** 高速、シンプル、費用対効果の高いデータウェアハウス
- DMS** マネージドデータベースマイグレーションサービス

ネットワーキング

- VPC** 独立したクラウドリソース
- Direct Connect** AWS への専用線接続
- Route 53** スケーラブルな DNS とドメインネーム登録

開発者用ツール

- CodeCommit** プライベート Git リポジトリ内のコードの保存
- CodeDeploy** コードデプロイの自動化
- CodePipeline** 繼続的な配信を使用したソフトウェアのリリース

管理ツール

- CloudWatch** リソースとアプリケーションのモニタリング
- CloudFormation** テンプレートによるリソースの作成と管理
- CloudTrail** ユーザーアクティビティと API の使用状況のトラッキング
- Config** リソースのインベントリーと変更のトラッキング
- OpsWorks** Chef を用いたオペレーションの自動化
- Service Catalog** 標準化された製品の作成と使用
- Trusted Advisor** パフォーマンスとセキュリティの最適化

セキュリティ & アイデンティティ

- Identity & Access Management** ユーザーアクセスと暗号化キーの管理
- Directory Service** アクティブディレクトリのホストと管理
- Inspector** アプリケーションのセキュリティの分析
- WAF** 惡意あるウェブトラフィックのフィルター
- Certificate Manager** SSL/TLS の証明書のプロビジョニング、管理、およびデプロイ

分析

- EMR** マネージド型 Hadoop フレームワーク
- Data Pipeline** データ駆動型ワークフローに対するオーケストレーションサービス
- Elasticsearch Service** Elasticsearch クラスターの実行とスケーリング
- Kinesis** リアルタイムストリーミングデータとの連携
- Machine Learning** すばやく簡単にスマートアプリケーションを構築

IoT

- AWS IoT** デバイスをクラウドに接続

ゲーム開発

- GameLift** セッションベースのマルチプレイヤーゲームをデプロイおよびスケーリング

モバイルサービス

- Mobile Hub** モバイルアプリの構築、テスト、モニタリング
- Cognito** ユーザー ID およびアプリケーション同期
- Device Farm** クラウド上の実際のデバイスを使った Android、iOS およびウェブアプリケーションのテスト
- Mobile Analytics** アプリケーション分析の収集、表示、エクスポート
- SNS** ブッシュ通知サービス

アプリケーションサービス

- API Gateway** API の構築、発行、および管理
- AppStream** 低レイテンシーのアプリケーションストリーミング
- CloudSearch** マネージド型検索サービス
- Elastic Transcoder** 使いやすいスケーラブルなメディア変換サービス
- SES** E メール送受信サービス
- SQS** メッセージキューサービス
- SWF** アプリケーションコンポーネントを連携させるワークフローサービス

エンタープライズアプリケーション

- WorkSpaces** クラウド内のデスクトップ
- WorkDocs** セキュアなエンタープライズ向けストレージおよび共有サービス
- WorkMail** セキュリティ保護された E メールとカレンダーサービス

リソースグループ 詳細はこちら

リソースグループは、1 つ以上のタグを共有するリソースのコレクションです。お客様のアカウントにあるプロジェクト、アプリケーション、環境それぞれのグループを作成してください。

グループの作成

タグエディター

その他のリソース

はじめに

詳細は [ドキュメント](#)、AWS についてさらに詳しくは [トレーニング](#) を参照してください。

AWS Console モバイルアプリ

[Amazon アプリストア](#)、[Google Play](#)、または [iTunes](#) から入手可能な AWS コンソールモバイルアプリを使用して、出先でリソースを表示します。

AWS Marketplace

ソフトウェアを検索して購入し、1-Click で起動し、時間単位で料金を支払えます。

AWS re:Invent での新製品発表

次世代のAWS クラウドサービスを一挙にご紹介。 [最新情報を見る](#)

サービス状態

すべてのサービスが正常に動作中です。

更新済み: Oct 04 2016 22:27:00 GMT+0900

サービス状態ダッシュボード

こんな画面になります

※プロジェクトが既にある場合です

The screenshot shows the AWS Mobile Hub console interface. At the top, there's a navigation bar with an orange cube icon, the text "Mobile Hub", and user information "Daisuke Todate" and "Support". Below the navigation bar, there are three project cards. Each card displays a project name (redacted), Region (US East (Virginia)), and Creation Date (September 29, 2016). Each card also has a purple footer bar with five icons: Configure (gear wrench), Build (code editor), Test (gear), Analytics (bar chart), and Resources (grid). To the right of these cards is a large white box containing a large gray plus sign and the text "Create new mobile project". At the bottom of the page, there are links for "フィードバック" (Feedback), "日本語" (Japanese), copyright information ("© 2008 - 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved."), and privacy and terms of service links ("プライバシーポリシー" and "利用規約").

[Create new mobile project]をクリック

適当な名前で構いません

The screenshot shows the 'Create new mobile project' dialog box from the AWS Mobile Hub. At the top, there's a navigation bar with an orange icon, the text 'Mobile Hub', a user profile 'Daisuke Todate', and a 'Support' dropdown. Below the navigation bar, the main title 'What is your project name?' is displayed. A text input field labeled 'Project name' is present. To the right of the input field is a blue arrow pointing left. Below the input field, a note states 'Resources for your project will be created in the **US East (Virginia)** region.' with a small edit icon. At the bottom of the dialog are two buttons: a blue 'Create project' button and a white 'Cancel' button with a blue border.

Mobile Hub

Daisuke Todate

Support

What is your project name?

Project name

Resources for your project will be created in the **US East (Virginia)** region.

Create project

Cancel

フィードバック

日本語

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プライバシーポリシー

利用規約

プロジェクトができました

設定をしていきましょう

Mobile Hub > JawsUG_Aomori201610 Daisuke Todate Support

Configure Integrate Test Analytics Resources

Pick and configure features for your project

User Sign-in NoSQL Database User Data Storage

NoSQL Database User Data Storage

App Analytics Push Notifications Cloud Logic

Cloud Logic

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Let your users sign in with public identity providers or your own identity system.

Store data in a fully managed cloud database.

Store files for your users in the cloud, and store and sync user data in key/value pairs.

Powered by Amazon Cognito

Powered by Amazon DynamoDB

Powered by Amazon Cognito and S3

Collect app usage information and analyze key metrics.

Send push notifications to individuals or groups.

Run your backend code in the cloud.

その前に...

7つの機能をさらっと説明

1. User Sign-in
2. User Data Storage
3. App Analytics
4. Push Notifications
5. Cloud Logic
6. App Content Delivery
7. NoSQL Database (**New!**)

User Sign-in

ユーザー認証

Powered by Amazon Cognito

特徴

- 独自のユーザーIDシステムまたは、Facebookのような人気のソーシャルログインを介してなど、ユーザーがアプリケーションにどのようにサインインするか設定できる

User Data Storage

データストレージ

Powered by Amazon Cognito and S3

特徴

- ユーザープロファイルや好み、ハイスコアまたはゲームの状態などのキーと値のペアのユーザーデータをユーザーの認証済みデバイス間でデータを同期させることができる
- Amazon S3 のバケットとフォルダを生成し、それぞれにファイルの適切な読み書き権限を設定できる

App Analytics

アクセス解析

Powered by Amazon Mobile Analytics

特徴

- DAU/MAUや新規ユーザー数、セッション数、イベントの発生状況などの情報を取得して可視化できる
- 60分以内に反映される（リアルタイムではない）
- Google Analyticsのスクリーントラッキング機能にあたるものが見当たらない…

Push Notifications

プッシュ通知

Powered by Amazon SNS

特徴

- Apple (APNS and APNS Sandbox) および Google (GCM)
のプッシュ通知サービスを通してプッシュ通知を設定できる

Cloud Logic

Powered by AWS Lambda

特徴

- AWS Lambdaをアプリから直接呼び出せる

App Content Delivery

コンテンツ配信

Powered by Amazon S3 and CloudFront

特徴

- リソースファイルまたはオーディオビデオファイルなどのアプリケーション資産のクラウドストレージを設定できる
- AWSコンテンツ配信ネットワーク(CDN)を通してグローバルにキャッシュし、公開することもできる

どこから取得するかを決められる

設定	取得元
Single location	S3からの直接ダウンロード
Global CDN	CloudFrontからのファイル配信

注意

- ファイルの実体はS3に (project name)-contentdelivery-mobilehub-*****のような名前のバケットが作られ、そこに保存される
- public状態で保存される（アクセス制御が必要なら注意）

NoSQL Database

Powered by Amazon DynamoDB

特徴

- アプリケーションで使用するデータを保存およびクエリできる、Amazon DynamoDB を追加できる

実は最近追加されたばかり (4/22)

Menu  AWS re:invent Products Solutions More ▾ English ▾ My Account ▾ Sign In to the Console

ABOUT AWS

- About AWS >
- Global Infrastructure >
- What's New >
- AWS in the News >
- Events & Webinars >

RELATED LINKS

- What is Cloud Computing?
- AWS Free Usage Tier
- AWS Blog
- AWS Careers
- AWS Training

Manage Your Resources

Sign In to the Console

AWS Mobile Hub adds NoSQL database service

Posted On: Apr 22, 2016

You can now use AWS Mobile Hub to add a fully managed cloud database service to your mobile app. This feature is powered by Amazon DynamoDB which provides a fast (single-digit millisecond latency) service at any scale.

To get started, login to AWS Mobile Hub console and simply select NoSQL to add to a new or existing project. AWS Mobile Hub automatically sets up a DynamoDB instance and generates sample code for database queries for iOS and Android. You can cut and paste the code snippets to your app and get access to Amazon DynamoDB.

To learn more, visit our [webpage](#) or [AWS Mobile Hub console](#).

<https://aws.amazon.com/jp/about-aws/what-s-new/2016/04/aws-mobile-hub-adds-nosql-database-service/>

SampleAppで使い方を確認

今回は...

User Sign-in, Push Notifications は時間の都合上、割愛させていただきます。

ご了承ください。

コンソール上で作業していきます

まずは[App Analytics]から

The screenshot shows the AWS Mobile Hub console interface. On the left, there's a vertical sidebar with icons for Configure, Integrate, Test, Analytics, and Resources. The main area displays the 'Mobile Hub > JawsUG_Aomori201610' dashboard. It features five cards:

- App Analytics**: Powered by Amazon Mobile Analytics. Description: Collect app usage information and analyze key metrics. Status: Powered by Amazon Mobile Analytics.
- Push Notifications**: Powered by Amazon SNS. Description: Send push notifications to individuals or groups of users. Status: Powered by Amazon SNS.
- Cloud Logic**: Powered by AWS Lambda. Description: Run your backend code in the cloud. Status: Powered by AWS Lambda.
- App Content Delivery**: This card is partially visible at the bottom.

At the bottom of the page, there are links for フィードバック (Feedback), 日本語 (Japanese), © 2008 - 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved., プライバシーポリシー (Privacy Policy), and 利用規約 (Terms of Use).

[Add Analytics] -> [Save Changes] -> [Configure more feautures]をクリック

The screenshot shows the AWS Mobile Hub interface for the project "JawsUG_Aomori201610". The left sidebar has icons for Configure, Integrate, Test, Analytics (which is selected), and Resources. The main content area is titled "App Analytics" and says "Collect app usage information and analyze key metrics." It asks "Enable app analytics for this project?" with two options: "Not required" (unchecked) and "Add analytics" (checked). A success message says "Your changes have been saved." Below are buttons for "Configure more features" and "Integrate with my app". The top navigation bar includes "Mobile Hub", "Daisuke Todate", "Support", and a back arrow.

Mobile Hub > JawsUG_Aomori201610 > App Analytics

Daisuke Todate Support <

Configure

Integrate

Test

Analytics

Resources

App Analytics

Collect app usage information and analyze key metrics.

Powered by Amazon Mobile Analytics

<

Enable app analytics for this project?

Not required

Add analytics

Your changes have been saved.

See resource creation details

Configure more features

Integrate with my app

フィードバック 日本語

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色が変わったら設定完了です

Mobile Hub > JawsUG_Aomori201610 Daisuke Todate Support

providers or your own identity system.

Powered by Amazon Cognito +

and sync user data in key/value pairs.

Powered by Amazon DynamoDB +

Powered by Amazon Cognito and S3 +

Configure Integrate Test Analytics Resources

 App Analytics

Collect app usage information and analyze key metrics.

Powered by Amazon Mobile Analytics +

 Push Notifications

Send push notifications to individuals or groups of users.

Powered by Amazon SNS +

 Cloud Logic

Run your backend code in the cloud.

Powered by AWS Lambda +

 App Content Delivery

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フィードバック 日本語

次は[User Data Storage]

Mobile Hub > JawsUG_Aomori201610 Daisuke Todate Support

Add more features or [build your app](#)

User Sign-in
Let your users sign in with public identity providers or your own identity system.
Powered by Amazon Cognito

NoSQL Database
Store data in a fully managed cloud database.
Powered by Amazon DynamoDB

User Data Storage
Store files for your users in the cloud, and store and sync user data in key/value pairs.
Powered by Amazon Cognito and S3

App Analytics
Collect app usage information and analyze key metrics.

Push Notifications
Send push notifications to individuals or groups.

Cloud Logic
Run your backend code in the cloud.

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[Store user data] -> [Save Changes] -> [Configure more feautures]をクリック

The screenshot shows the AWS Mobile Hub interface. On the left is a vertical sidebar with icons for Configure, Integrate, Test, Analytics, and Resources. The main content area is titled "User Data Storage" and displays the message: "Store files for your users in the cloud, and store and sync user data in key/value pairs." Below this is a question: "Do you want to store user data in the cloud?". Two options are shown: "Not required" (with a crossed-out icon) and "Store user data" (with a cloud icon). A success message at the bottom says "Your changes have been saved." with a checkmark icon. At the very bottom are two buttons: "Configure more features" and "Integrate with my app". The top navigation bar includes links for "Mobile Hub", "JawsUG_Aomori201610", "User Data Storage", "Daisuke Todate", "Support", and a back arrow.

Mobile Hub > JawsUG_Aomori201610 > User Data Storage

Daisuke Todate Support

User Data Storage

Powered by Amazon Cognito and S3

Configure

Integrate

Test

Analytics

Resources

User Data Storage

Store files for your users in the cloud, and store and sync user data in key/value pairs.

Do you want to store user data in the cloud?

Not required

Store user data

Your changes have been saved.

See resource creation details

Configure more features

Integrate with my app

フィードバック 日本語

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色が変わったら設定完了です

Mobile Hub > JawsUG_Aomori201610 Daisuke Todate Support

Add more features or [build your app](#)

 User Sign-in
Let your users sign in with public identity providers or your own identity system.
Powered by Amazon Cognito +

 NoSQL Database
Store data in a fully managed cloud database.
Powered by Amazon DynamoDB +

 User Data Storage
Store files for your users in the cloud, and store and sync user data in key/value pairs.
Powered by Amazon Cognito and S3 +

 Analytics

 Resources

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次は[App Content Delivery]

The screenshot shows the AWS Mobile Hub console interface. On the left, there's a vertical sidebar with icons for Configure, Integrate, Test, Analytics, and Resources. The main area displays several services:

- App Analytics**: Collect app usage information and analyze key metrics. Powered by Amazon Mobile Analytics.
- Push Notifications**: Send push notifications to individuals or groups of users. Powered by Amazon SNS.
- Cloud Logic**: Run your backend code in the cloud. Powered by AWS Lambda.
- App Content Delivery** (highlighted in a white box): Store app assets like resource files in the cloud. Download and cache files in your app. Powered by Amazon S3 and CloudFront.

At the bottom, there are links for Feedback, Japanese language, copyright notice (© 2008 – 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved.), Privacy Policy, and Terms of Use.

[Single location] -> [Save Changes] -> [Configure more feautures]をクリック

Mobile Hub > JawsUG_Aomori201610 > Content Delivery Daisuke Todate Support

Configure Integrate Test Analytics Resources

App Content Delivery

Powered by Amazon S3 and CloudFront

Store app assets like resource files in the cloud. Download and cache files in your app.

Do you want to store files in the cloud that get delivered to your app?

Not required Single location Global CDN

Your changes have been saved.

See resource creation details

Configure more features Integrate with my app

フィードバック 日本語

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※S3からの取得をする設定

色が変わったら設定完了です

The screenshot shows the AWS Mobile Hub console interface. On the left, there's a vertical sidebar with icons for Configure, Integrate, Test, Analytics, and Resources. The main area displays four service cards:

- App Analytics**: Collect app usage information and analyze key metrics. Powered by Amazon Mobile Analytics. A purple bar with a gear icon is at the bottom.
- Push Notifications**: Send push notifications to individuals or groups of users. Powered by Amazon SNS. A blue bar with a plus sign is at the bottom.
- Cloud Logic**: Run your backend code in the cloud. Powered by AWS Lambda. A blue bar with a plus sign is at the bottom.
- App Content Delivery**: Store app assets like resource files in the cloud. Download and cache files in your app. Powered by Amazon S3 and CloudFront. A purple bar with a gear icon is at the bottom.

At the bottom of the page, there are links for Feedback, Japanese language, copyright notice (© 2008 – 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved.), Privacy Policy, and Terms of Use.

次は[Cloud Logic]

Mobile Hub > JawsUG_Aomori201610 Daisuke Todate Support

Configure Integrate Test Analytics Resources

Powered by Amazon Cognito +

Powered by Amazon DynamoDB +

Powered by Amazon Cognito and S3 +

App Analytics ✓
Collect app usage information and analyze key metrics.
Powered by Amazon Mobile Analytics

Push Notifications
Send push notifications to individuals or groups of users.
Powered by Amazon SNS

Cloud Logic
Run your backend code in the cloud.
Powered by AWS Lambda

App Content Delivery ✓

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[Enable logic] をクリック

Mobile Hub > JawsUG_Aomori201610 > Cloud Logic Daisuke Todate Support

Configure Integrate Test Analytics Resources

Cloud Logic

Run app logic in the cloud. Share functionality across mobile platforms.

Powered by AWS Lambda

Do you want to be able to run code in the cloud?

Not required Enable logic

Which functions would you like to invoke from your app?

Cloud Logic allows you to deploy app logic to the cloud. Mobile Hub creates a default "hello-world" function for you which simply echos the value set for the key/value pair input with "key1" as its key.

Function name	Description	Language

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Lambdaに関数を作成

[Enable Logic]をクリック後、[Create a new function...]をクリック

The screenshot shows the AWS Mobile Hub Cloud Logic interface. On the left is a sidebar with icons for Configure, Integrate, Test, Analytics, and Resources. The main area has a title "Which functions would you like to invoke from your app?" and a description explaining Cloud Logic allows you to deploy app logic to the cloud. It lists several functions:

Function name	Description	Language
<input checked="" type="checkbox"/> getRandomQuestion4	A simple mobile backend (read/write to DynamoDB).	Edit
<input type="checkbox"/>		Edit
<input type="checkbox"/>		NodeJS Edit
<input checked="" type="checkbox"/> hello-world	A starter AWS Lambda function.	NodeJS Edit
<input checked="" type="checkbox"/> simple-mobile-backend-test	A simple mobile backend (read/write to DynamoDB).	Edit

At the bottom, there are buttons for "Configure more features" and "Integrate with my app".

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blueprintで[hello-world]を選択

[hello]でフィルターをかけるとすぐ見つかります。

The screenshot shows the AWS Lambda 'New function' wizard. The top navigation bar includes icons for AWS, Services, Edit, and Regions (Virginia North). The main page title is 'Lambda > New function'. On the left, a sidebar lists steps: 'Select blueprint' (highlighted in orange), 'Configure triggers', 'Configure function', and 'Review'. The main content area is titled 'Select blueprint' with a help icon. It explains that blueprints are sample configurations of event sources and Lambda functions, and allows customization or skipping if desired. A note states that blueprints are licensed under CC0. A search bar at the top right of the content area has 'Select runtime' dropdown set to 'nodejs' and a search term 'hello'. Below the search bar, a message says 'Viewing 1-9 of 51'. Two blueprint cards are shown: 'hello-world' (A starter AWS Lambda function. nodejs) and 'hello-world-python' (A starter AWS Lambda function. python2.7).

そのまま[next]を選択

AWS | サービス | 編集 | バージニア北部 | サポート

Lambda > New function using blueprint hello-world

Select blueprint

Configure triggers

Configure function

Review

Configure triggers

Configure an optional trigger to automatically invoke your function.

Remove

Cancel Previous Next

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関数を作成していく

Name

「hello-world-xxxxxx」にしてください
(xxxxxxは周りと被らないように設定) ※名前を推奨

Runtime

「Node.js 4.3」のまま

Lambda function code

Lambdaで実行するコードを記入します。今回は変更しません

(続き)

Handler

「index.handler」のまま変更しない

Role

「Create new role from template(s)」を選択

Role name

「hello-world-role-xxxxxx」に変更

(xxxxxxは周りと被らないように設定) ※名前を推奨

Policy templates

Lambdaから呼び出しをするAWSサービスの権限を設定します。

今回は「Simple Microservice permissions」を選択

終わったら...

[Next] -> [Create]を押して関数を作成します

作った関数をテストしてみる

[Test]を押して、実行結果に「"value1"」が表示されるか確認してください。

The screenshot shows the AWS Lambda Functions test interface. At the top, there's a navigation bar with icons for AWS, Services, and Support, along with dropdown menus for Region (Virginia North) and Language (JavaScript). The main area shows the function details: ARN (arn:aws:lambda:us-east-1:...:function:helloworld-todate), Lambda > Functions > helloworld-todate, and a Qualifiers dropdown set to 'Test'. Below this is a toolbar with 'Test' (which is highlighted in blue), 'Actions', and tabs for 'Code', 'Configuration', 'Triggers', and 'Monitoring'. A dropdown menu for 'Code entry type' is open, showing 'Edit code inline'. The code editor contains two lines of JavaScript:

```
1 'use strict';
2
```

Below the code editor, a green checkmark indicates a successful execution result:

Execution result: succeeded (logs)

The execution log output is shown in a dashed box:

```
:
: "value1"
:
```

At the bottom, there are sections for 'Summary' (Code SHA-256: iyWuqyAoG+buGhyPQx7rFavqVc256 blBk81tefsSmthCOI=) and 'Log output' (with a note about CloudWatch log group integration).

At the very bottom, there are footer links for Feedback, Japanese, Copyright (2008-2016), Privacy Policy, and Terms of Service.

MobileHubのページへ戻り、「Function name」の横の更新ボタンをクリックします。自分で作成したLambda functionにチェック -> [Save Changes] -> [Configure more feautures]をクリック

The screenshot shows the AWS Mobile Hub Cloud Logic interface. On the left, there's a sidebar with icons for Configure, Integrate, Test, Analytics, and Resources. The main area displays a table of Lambda functions:

Function name	Description	Language	Action
[REDACTED]	[REDACTED]		Edit
[REDACTED]	[REDACTED]	NodeJS	Edit
<input checked="" type="checkbox"/> hello-world	A starter AWS Lambda function.	NodeJS	Edit

Below the table, a message says "Your changes have been saved." with a link to "See resource creation details". At the bottom, there are two buttons: "Configure more features" and "Integrate with my app".

Mobile Hub > JawsUG_Aomori201610 > Cloud Logic

Daisuke Todate Support

Configure

Integrate

Test

Analytics

Resources

Which functions would you like to invoke from your app?

Cloud Logic allows you to deploy app logic to the cloud. Mobile Hub creates a default "hello-world" function for you which simply echos the value set for the key/value pair input with "key1" as its key.

Function name	Description	Language	Action
[REDACTED]	[REDACTED]		Edit
[REDACTED]	[REDACTED]	NodeJS	Edit
<input checked="" type="checkbox"/> hello-world	A starter AWS Lambda function.	NodeJS	Edit

Create a new function...

✓ Your changes have been saved.

See resource creation details

Configure more features

Integrate with my app

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色が変わったら設定完了です

Mobile Hub > JawsUG_Aomori201610 Daisuke Todate Support

Configure Integrate Test Analytics Resources

providers or your own identity system.

Powered by Amazon Cognito

Powered by Amazon DynamoDB

Powered by Amazon Cognito and S3

App Analytics

Push Notifications

Cloud Logic

App Content Delivery

Collect app usage information and analyze key metrics.

Send push notifications to individuals or groups of users.

Run your backend code in the cloud.

Powered by AWS Lambda

Powered by Amazon Mobile Analytics

Powered by Amazon SNS

Powered by AWS Lambda

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最後に[NoSQL Database]

Mobile Hub > JawsUG_Aomori201610 Daisuke Todate Support

Add more features or [build your app](#)

User Sign-in
Let your users sign in with public identity providers or your own identity system.
Powered by Amazon Cognito

NoSQL Database
Store data in a fully managed cloud database.
Powered by Amazon DynamoDB

User Data Storage
Store files for your users in the cloud, and store and sync user data in key/value pairs.
Powered by Amazon Cognito and S3

App Analytics
Collect app usage information and analyze key metrics.

Push Notifications
Send push notifications to individuals or groups.

Cloud Logic
Run your backend code in the cloud.

Feedback | 日本語 | © 2008 – 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved. | プライバシーポリシー | 利用規約

[Enable NoSQL]をクリック

The screenshot shows the AWS Mobile Hub interface for a project named "JawsUG_Aomori201610". The left sidebar has icons for Configure, Integrate, Test, Analytics, and Resources. The main area is titled "NoSQL Database" and says "Store data in a fully managed cloud database." It asks "Do you want to add a database to your app?" with two buttons: "No database" (highlighted with a purple border) and "Enable NoSQL". Below these are "Configure more features" and "Integrate with my app" buttons. The top right shows user information "Daisuke Todate" and "Support". The bottom footer includes links for Feedback, Japanese language, copyright notice, Privacy Policy, and Terms of Use.

Mobile Hub > JawsUG_Aomori201610 > Database

Daisuke Todate Support

NoSQL Database

Powered by Amazon DynamoDB

Configure

Integrate

Test

Analytics

Resources

No database

Enable NoSQL

Configure more features

Integrate with my app

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[Add a new table]をクリック

The screenshot shows the AWS Mobile Hub interface for managing databases. The top navigation bar includes 'Mobile Hub > JawsUG_Aomori201610 > Database'. On the left, a sidebar lists 'Configure', 'Integrate', 'Test', 'Analytics', and 'Resources'. The main content area asks 'Do you want to add a database to your app?' with two options: 'No database' (disabled) and 'Enable NoSQL' (selected). Below this, a table displays table metadata with columns: Name, Partition key, Sort key, Items, and Capacity. A message states 'You currently have no tables'. At the bottom, a button labeled '+ Add a new table' is visible.

Mobile Hub > JawsUG_Aomori201610 > Database

Daisuke Todate Support

Configure

Integrate

Test

Analytics

Resources

Do you want to add a database to your app?

No database

Enable NoSQL

Name	Partition key	Sort key	Items	Capacity
You currently have no tables				

+ Add a new table

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今回は[Example]をクリック

Mobile Hub > JawsUG_Aomori201610 > Database

Daisuke Todate Support

Name Partition key Sort key Items Capacity

You currently have no tables

+ Add a new table

How would you like to define your database schema?

Example
Start with an example schema.

Custom
Start with an empty schema.

Wizard
Walk me through the table creation process.

Create table Cancel

フィードバック 日本語

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[News]をクリック

Mobile Hub > JawsUG_Aomori201610 > Database

Daisuke Todate Support

Configure Integrate Test Analytics Resources

How would you like to define your database schema?

Example Start with an example schema.

Custom Start with an empty schema.

Wizard Walk me through the table creation process.

Which example schema would you like to use?

News Stores categorized news articles.

Locations Store items with geographic locations.

Notes Stores private notes for each user.

Ratings Store catalog of items with 5 star ratings.

Graffiti Wall Stores shared drawing items.

Create table Cancel

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[News]をクリック

Mobile Hub > JawsUG_Aomori201610 > Database

Daisuke Todate Support

Configure Integrate Test Analytics Resources

Table name: News

Table resource: jawsugaomori-mobilehub-... News

What permissions would you like for this table?

Public: Any app user can read and write to any item.

Protected: Any app user can read, only owner can write to item. (Selected)

Private: Only the owner can read and write the item.

What attributes do you want on this table?

Each table has a built-in Primary Index which must have a Partition key and optionally may have a Sort key. Key attributes must be of type string, number or binary. Non-key attributes may be added here or from within your mobile app code.

Attribute name	Type	Partition key	Sort key
userId	string Table is protected	<input checked="" type="checkbox"/>	<input type="checkbox"/>

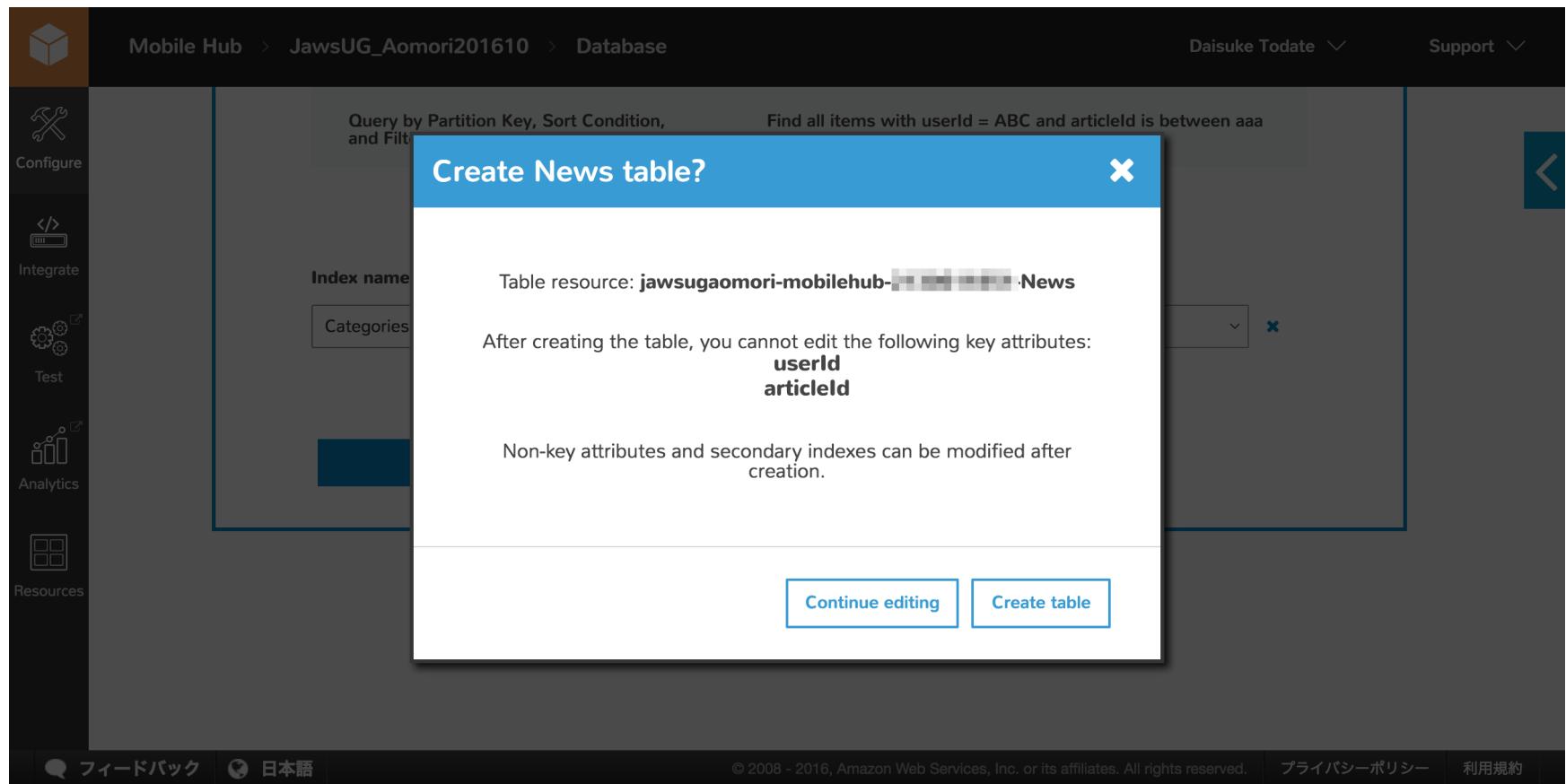
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[Create table]をクリック

テーブル名、権限、属性、インデックスなどの情報を編集できますが、今回はそのままで。

The screenshot shows the AWS Mobile Hub interface for creating a new database table. On the left, there's a vertical sidebar with icons for Configure, Integrate, Test, Analytics, and Resources. The main area is titled "What indexes do you want on this table?". It has three input fields: "Index name" (Categories), "Partition key" (category), and "Sort key" (creationDate). Below these fields is a note: "Queries this index can perform." followed by an "Add index" button. At the bottom, there are two buttons: "Create table" (in a blue box) and "Cancel". The top navigation bar shows the path: Mobile Hub > JawsUG_Aomori201610 > Database. The top right corner shows user information: Daisuke Todate and Support.

[Create table]をクリック



[Configure more feautures]をクリック

The screenshot shows the AWS Mobile Hub interface for configuring a database. On the left, there's a sidebar with icons for Configure, Integrate, Test, Analytics, and Resources. The main area shows a table with one item:

Name	Partition key	Sort key	Items	Capacity	Actions
News	userId	articleId	0	3 / 3	Edit Remove

Below the table is a button labeled "+ Add a new table". A success message at the bottom says "Your changes have been saved." with a link to "See resource creation details". At the very bottom, there are two buttons: "Configure more features" and "Integrate with my app".

Mobile Hub > JawsUG_Aomori201610 > Database

No database [Enable NoSQL](#)

Daisuke Todate Support

Configure

Integrate

Test

Analytics

Resources

+ Add a new table

Your changes have been saved.

See resource creation details

Configure more features [Integrate with my app](#)

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色が変わったら設定完了です

Mobile Hub > JawsUG_Aomori201610 Daisuke Todate Support

Add more features or [build your app](#)

User Sign-in
Let your users sign in with public identity providers or your own identity system.
Powered by Amazon Cognito

NoSQL Database
Store data in a fully managed cloud database.
Powered by Amazon DynamoDB

User Data Storage
Store files for your users in the cloud, and store and sync user data in key/value pairs.
Powered by Amazon Cognito and S3

App Analytics
Collect app usage information and analyze key metrics.

Push Notifications
Send push notifications to individuals or groups.

Cloud Logic
Run your backend code in the cloud.

Configure Integrate Test Analytics Resources

Feedback Japanese Privacy Terms

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画面上部の[integrate with my app]をクリック

横メニューの[Integrate]でもOK

Mobile Hub > JawsUG_Aomori201610 Daisuke Todate Support

Add more features or [build your app](#)

User Sign-in

NoSQL Database

User Data Storage

App Analytics

Push Notifications

Cloud Logic

Configure

Integrate

Test

Analytics

Resources

Powered by Amazon Cognito

Powered by Amazon DynamoDB

Powered by Amazon Cognito and S3

Collect app usage information and analyze key

Send push notifications to individuals or groups

Run your backend code in the cloud.

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[Android]タブをクリック

iOSはSwiftとObjective-Cが選べます

The screenshot shows the AWS Mobile Hub console interface. On the left is a sidebar with icons for Configure, Integrate, Test, Analytics, and Resources. The main area shows a project named "Mobile Hub > JawsUG_Aomori201610". The top navigation bar has tabs for "iOS Swift", "iOS Obj-C", and "Android", with "Android" being the active tab. The left sidebar has sections for "Getting Started" (with "Setup Steps" expanded) and "User Sign-in", "NoSQL Database", "User Data Storage", "App Analytics", "Cloud Logic", and "App Content Delivery". The main content area under "Setup Steps" contains an "Overview" section stating that selected features are provisioned in the AWS Cloud, and two options for integration: "Option 1: Use a Mobile Hub sample app" and "Option 2: Use AWS SDKs and custom source code". A large blue button labeled "Download a sample app" is visible.

Mobile Hub > JawsUG_Aomori201610

Daisuke Todate Support

iOS Swift iOS Obj-C Android

Getting Started

Setup Steps

Overview

The AWS Mobile Hub features you have selected are now provisioned and configured in the AWS Cloud. Mobile Hub provides the two following ways to integrate these features with your mobile app.

- You can download and extend a fully functioning sample app that is already configured to access your backend features.
- Or, you can download the AWS SDKs and custom source code to manually integrate the features with your existing application. The links on the left allow you to navigate to guidance for integrating each feature of your Mobile Hub project.

Option 1: Use a Mobile Hub sample app

① Download a sample app

Download this sample app project which demonstrates the features you have configured for your Mobile Hub project. You can find documentation for the app in the READ_ME folder.

Download a sample app

Option 2: Use AWS SDKs and custom source code

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フィードバック 日本語

[Download a sample app]をクリックして、ファイルをダウンロード

だいたい1MBくらい？
一緒に解凍も行ってください。

The screenshot shows the AWS Mobile Hub console for the project 'JawsUG_Aomori201610'. The 'Android' tab is selected. On the left, there's a sidebar with icons for 'Configure', 'Integrate', 'Test', 'Analytics', and 'Resources'. The main content area has a sidebar on the left with sections like 'Getting Started', 'Setup Steps', 'User Sign-in', etc. The 'Setup Steps' section is expanded, showing 'Overview', 'Option 1: Use a Mobile Hub sample app', 'Option 2: Use AWS SDKs and custom source code', 'Updating Project Features', and 'Next steps'. Below this, the 'User Sign-in' section is expanded. The 'Setup Steps' section contains an 'Overview' paragraph and a bulleted list: 'You can download and extend a fully functioning sample app that is already configured to access your backend features.' and 'Or, you can download the AWS SDKs and custom source code to manually integrate the features with your existing application. The links on the left allow you to navigate to guidance for integrating each feature of your Mobile Hub project.' There are two main options: 'Option 1: Use a Mobile Hub sample app' and 'Option 2: Use AWS SDKs and custom source code'. Under 'Option 1', there's a step 1: 'Download a sample app' with a blue button labeled 'Download a sample app'.

Mobile Hub > JawsUG_Aomori201610

Daisuke Todate Support

iOS Swift iOS Obj-C Android

Getting Started

Setup Steps

Overview

The AWS Mobile Hub features you have selected are now provisioned and configured in the AWS Cloud. Mobile Hub provides the two following ways to integrate these features with your mobile app.

- You can download and extend a fully functioning sample app that is already configured to access your backend features.
- Or, you can download the AWS SDKs and custom source code to manually integrate the features with your existing application. The links on the left allow you to navigate to guidance for integrating each feature of your Mobile Hub project.

Option 1: Use a Mobile Hub sample app

① Download a sample app

Download this sample app project which demonstrates the features you have configured for your Mobile Hub project. You can find documentation for the app in the READ_ME folder.

Download a sample app

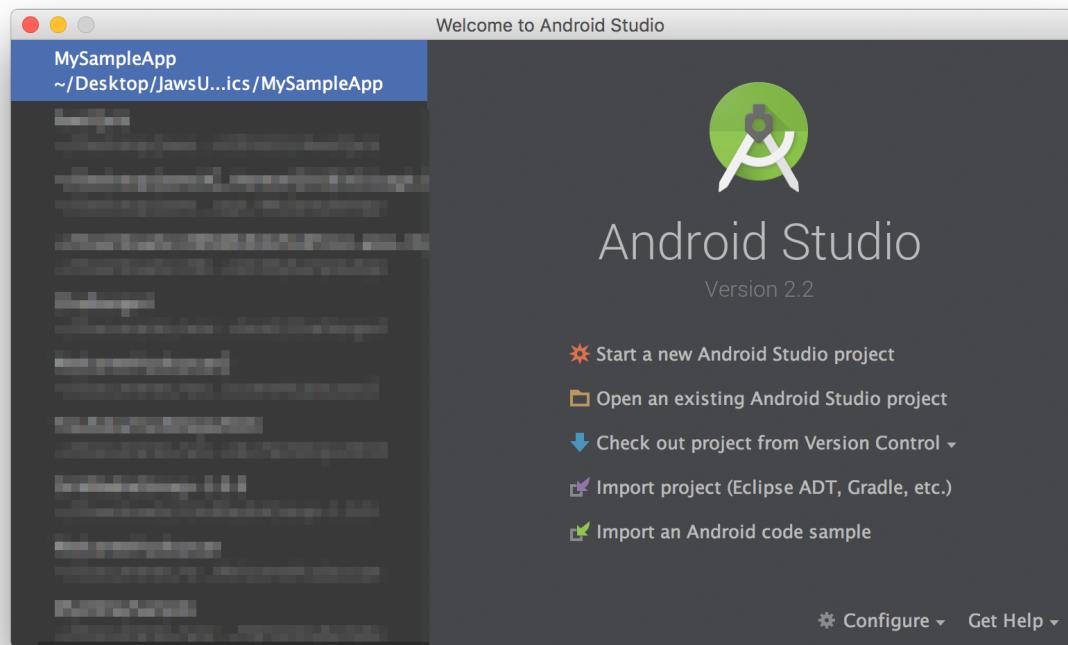
Option 2: Use AWS SDKs and custom source code

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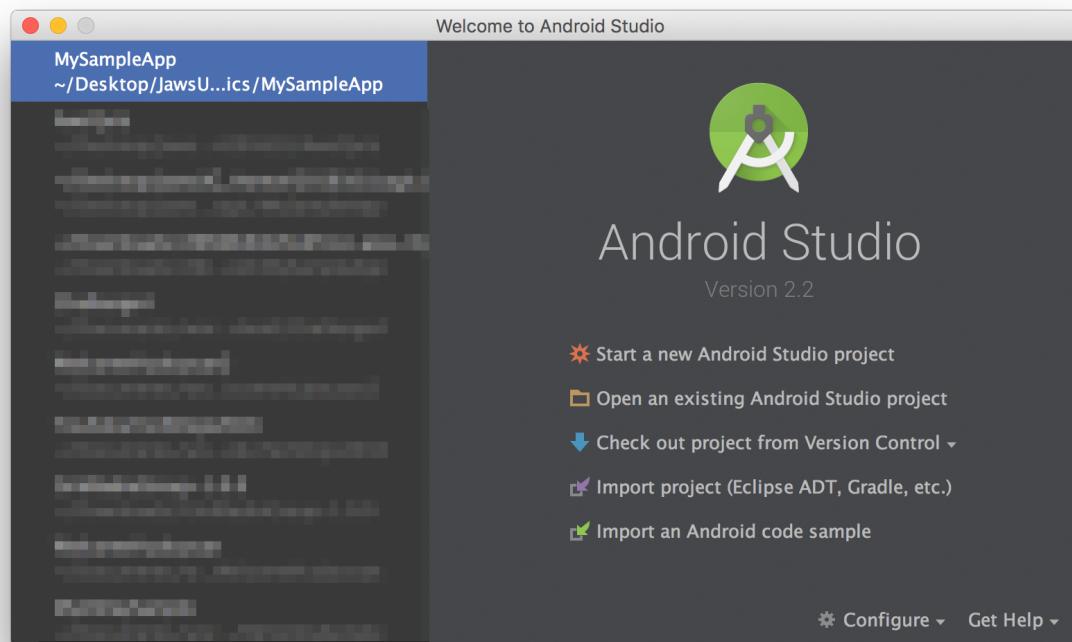
Android Studioでビルドしてみよう

[Android Studio]を起動

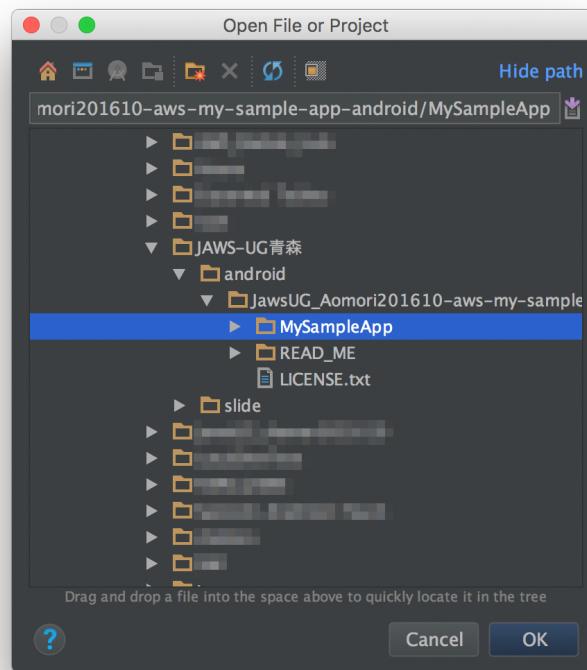
2016年11月28日の最新Verは2.2.2です



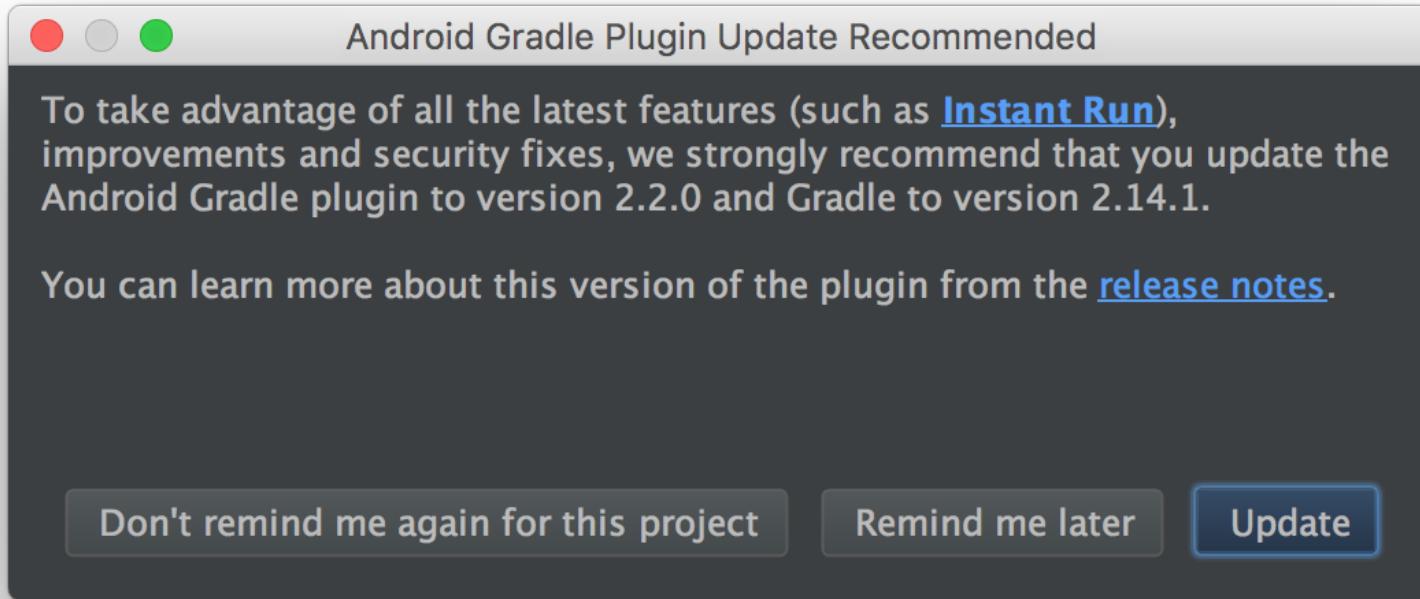
[Open an existing Android Studio Project]をクリック



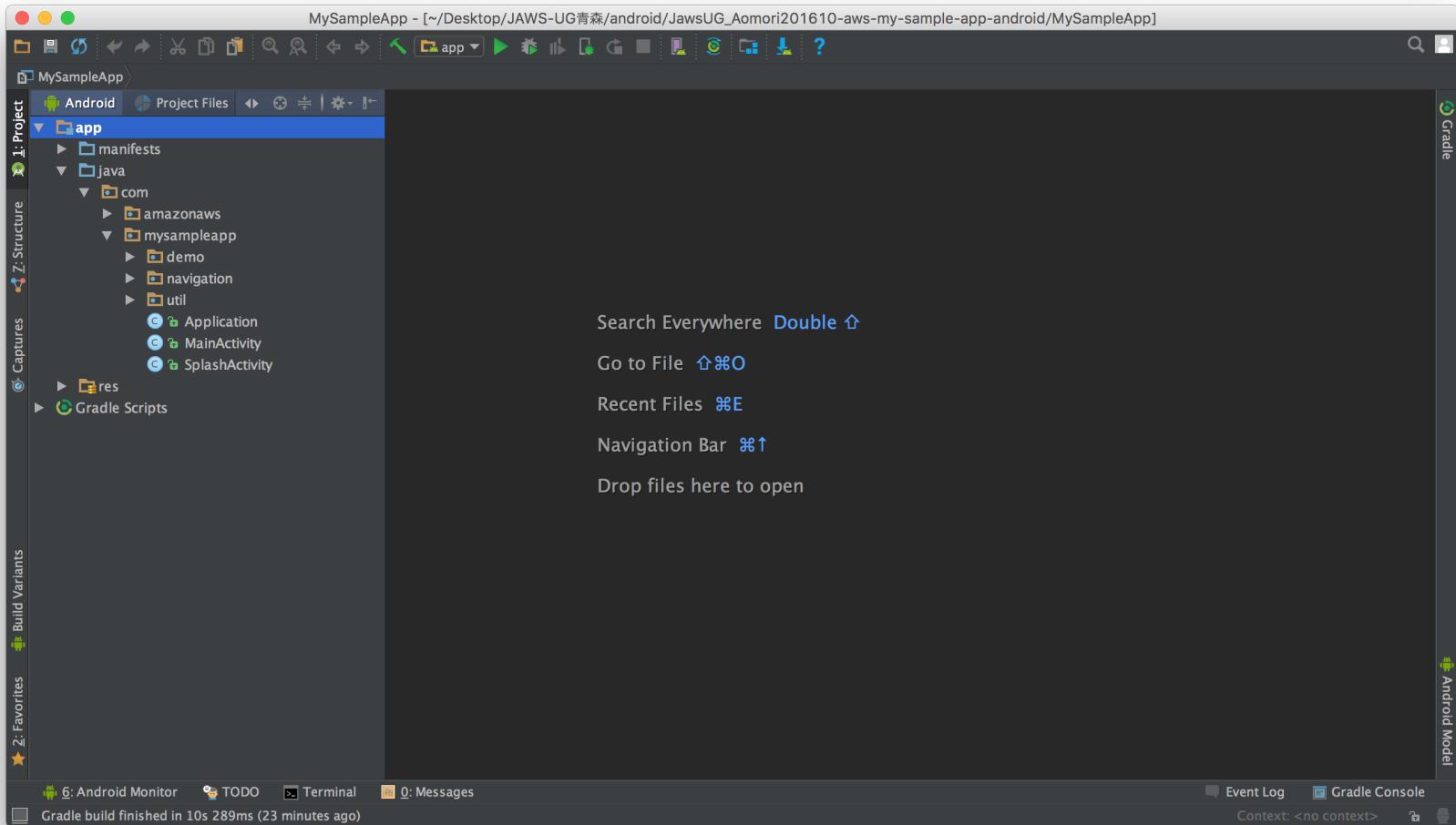
解凍したフォルダ内の[MySampleApp]を選択して、[OK]をクリック



アップデートが必要っぽい

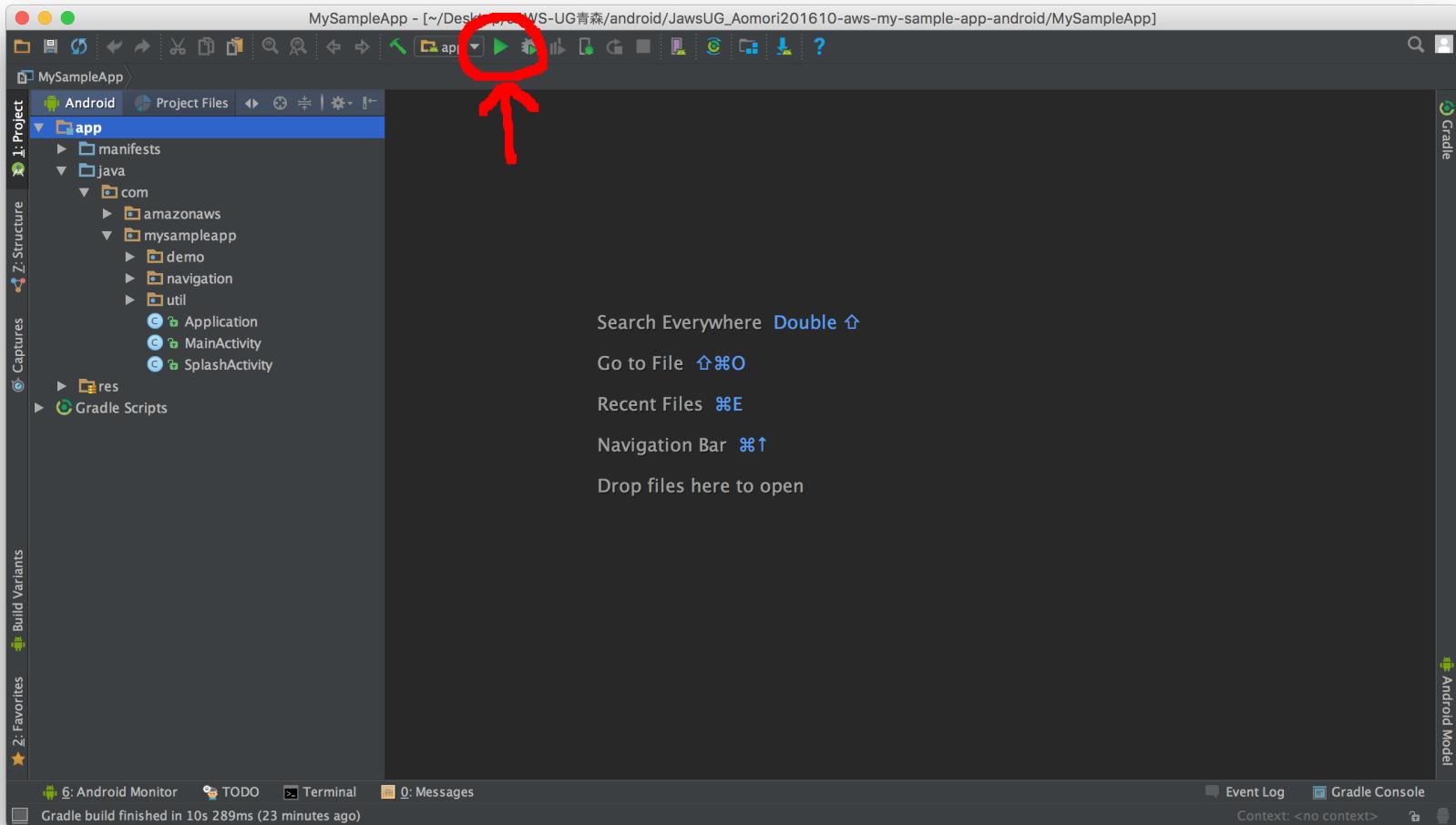


起動できたかな？



エミュレータもしくは実機で確認

ツールバーの[右三角]をクリック

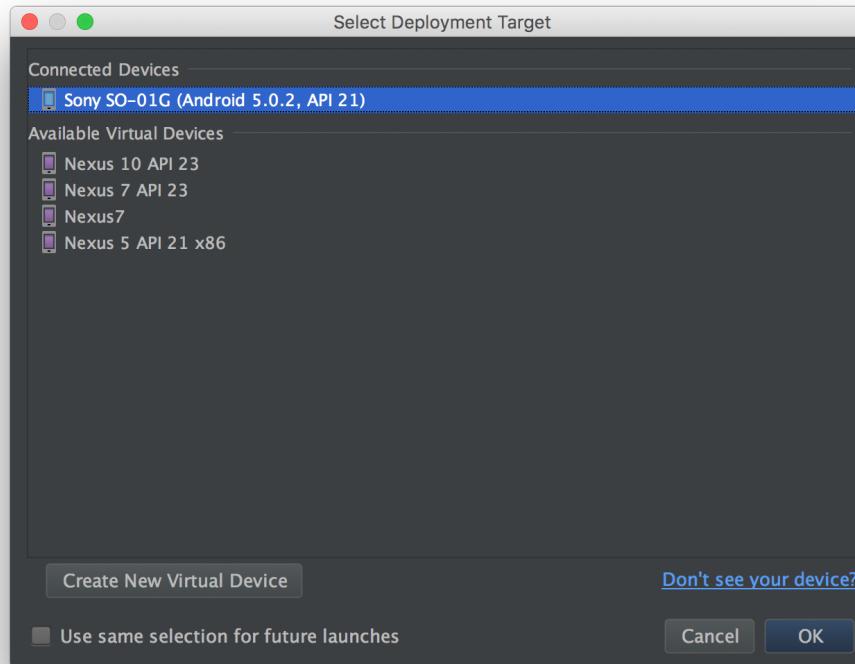


ターゲットを選択

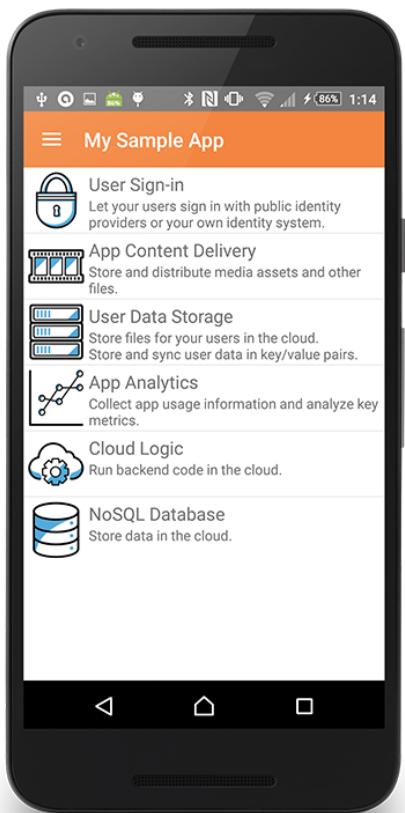
実機の場合は、[Connected Devices]から選択

エミュレータの場合は、[Available Virtual Devices]から選択

※エミュレータの起動には時間がかかります



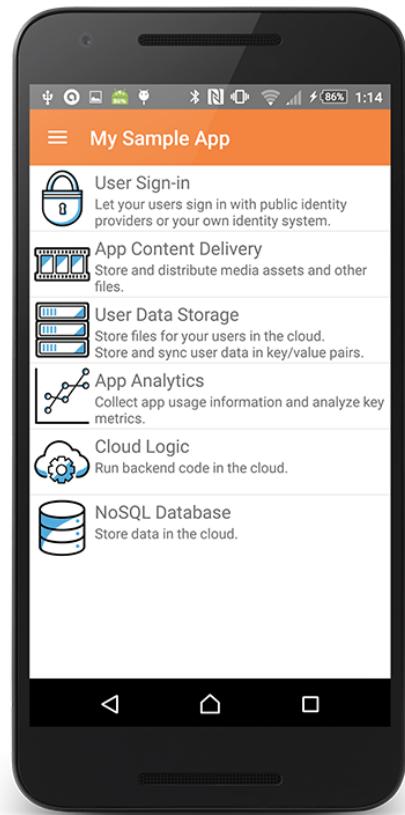
アプリが起動しました



サンプルアプリを動かしてみる

あれ？[User Sign-in]がある...？

設定しなくても[匿名ユーザー]を管理できます



作ったリソースってどこから確認できる？

画面左側メニューの[Resources]から、各サービスへのリンクがあります。

The screenshot shows the 'Manage your resources' page of the AWS Mobile Hub. On the left, a vertical menu bar has a red arrow pointing to the 'Resources' icon (represented by a grid icon). The main content area displays four service cards:

- Amazon DynamoDB Tables**: A fast, flexible NoSQL database. Mobile hub uses Dynamo DB for your Database feature. Services: jawsugaomori-mobilehub-[REDACTED] (US East (Virginia))
- Amazon Cognito Identity Pools**: Amazon Cognito provides identifiers and secure access tokens for your app users based on their authentication state so you can ensure secure access to your AWS services without embedding developer credentials in your mobile app. To provide secure access for your project, the AWS Mobile Hub has provisioned an Amazon Cognito Identity Pool. Services: jawsugaomori_MOBILEHUB-[REDACTED] (US East (Virginia))
- Amazon S3 Buckets**: Amazon S3 allows you to store files in the cloud organized in buckets. Depending on which features you have configured, we have provisioned buckets for User Data Storage and for App Content Delivery.
- AWS Lambda Functions**: Amazon Lambda runs your code in the cloud so you can execute backend logic for your app. Each function that you have created is listed below.

At the bottom, there are links for Feedback, Japanese, Copyright (2008-2016), Privacy Policy, and Terms of Use.

関数の中を見てみる

Lambdaのエディタ画面で見てみましょう。

The screenshot shows the AWS Lambda Functions editor interface. At the top, there's a navigation bar with the AWS logo, a dropdown for 'AWS', a 'サービス' dropdown, and a '編集' dropdown. On the right side of the bar are user details ('Daisuke Todate'), a region dropdown ('バージニア北部'), and a 'サポート' dropdown.

The main area shows the path 'Lambda > Functions > hello-world'. To the right, the ARN of the function is displayed as 'arn:aws:lambda:us-east-1:XXXXXXXXXXfunction:hello-world'. Below the path, there are tabs for 'Qualifiers', 'Test' (which is selected), and 'Actions'. Further down are tabs for 'Code' (selected), 'Configuration', 'Triggers', and 'Monitoring'.

The code entry type is set to 'Edit code inline'. The code itself is a Node.js script:

```
// Copyright 2015 Amazon.com, Inc. or its affiliates (Amazon). All Rights Reserved.  
// Code generated by AWS Mobile Hub. Amazon gives unlimited permission to copy, distribute and modify it.  
console.log('Loading function');  
  
exports.handler = function(event, context) {  
    //console.log('Received event:', JSON.stringify(event, null, 2));  
    console.log('value1 =', event.key1);  
    console.log('value2 =', event.key2);  
    console.log('value3 =', event.key3);  
    context.succeed(event.key1 + ", Hello World!!!"); // Echo back the first key value  
    // context.fail('Something went wrong');  
};
```

At the bottom of the editor, there are links for 'フィードバック' (Feedback), '日本語' (Japanese), and 'プライバシーポリシー' (Privacy Policy) and '利用規約' (Terms of Service).

サンプルソースとの対応表

各画面のソースを見て、具体的な処理方法を確認しましょう。

機能	ファイル名
(User Sign-in)	IdentityDemoFragment
User Data Storage	UserFilesBrowserFragment UserSettingsDemoFragment
App Analytics	AppAnalyticsDemoFragment
Cloud Logic	CloudLogicDemoFragment
App Content Delivery	ContentDeliveryDemoFragment
NoSQL Database	NoSQLSelectOperationDemoFragment

実際にアプリを作つてみよう

...の前に

注意

- エミュレータで確認している方
 - **エミュレータを絶対に消さないでください。**（再起動させるのにも少し時間がかかります）
- AWSアカウントを使用されている方
 - SampleAppを作った際にできたリソースは、Mobile Hubのプロジェクトを消してもAWS上に残ります。気になる方は個別に削除してください。

クイズアプリのプロジェクト一式を準備する

今回はこちら側で作ったものを使用します。

使用するファイル

今回の資料 `QuizApp` フォルダに入っています。

(作業)

1. プロジェクトをAndroid Studioで開く
2. エミュレータもしくは実機で動作確認

SDKの作成

(1)新しいMobile Hubプロジェクトを作成

SampleAppを作った時と同様に作業をしていきます。

プロジェクト名は適当な名前で構いません。

The screenshot shows the 'Create project' dialog for AWS Mobile Hub. At the top, there's a navigation bar with the 'Mobile Hub' logo, the user name 'Daisuke Todate', and a 'Support' dropdown. Below the header, the main title is 'What is your project name?'. A text input field is labeled 'Project name'. Below the input field, a note states 'Resources for your project will be created in the **US East (Virginia)** region.' with a small edit icon. At the bottom, there are two buttons: a blue 'Create project' button and a white 'Cancel' button. The footer of the page includes links for 'Feedback' (日本語), 'Japanese' (日本語), copyright information ('© 2008 - 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved.'), and 'Privacy Policy' and 'Terms of Service'.

(2)使うサービスを有効にしていく

機能	ファイル名
User Data Storage	[Store user data]にして保存
App Analytics	[Add Analytics]にして保存
App Content Delivery	[Single location]にして保存
Cloud Logic	(後述)
NoSQL Database	(後述)

(1-1)[S3]問題用アイコン画像をアップロード

[Resources]メニューから、[Amazon S3 Buckets]の
[(PROJECTNAME)-contentdelivery-mobilehub-xxxxxxxxxxxx]を
選択

The screenshot shows the AWS S3 console interface. At the top, there's a navigation bar with the AWS logo, a search bar, and user information (Daisuke Todate). Below the navigation bar is a toolbar with buttons for 'アップロード' (Upload), 'フォルダの作成' (Create folder), and 'アクション' (Actions). There's also a search bar for prefixes and buttons for 'なし' (None), 'プロパティ' (Properties), and '転送' (Transfer).

The main area displays a table of uploaded files. The columns are '名前' (Name), 'ストレージクラス' (Storage Class), 'サイズ' (Size), and '最終更新日時' (Last Updated). The table lists 21 files, all of which are standard storage type (スタンダード) and were uploaded on Saturday, October 8, 2016, between 02:14:10 and 02:14:24 GMT+900.

名前	ストレージクラス	サイズ	最終更新日時
icon_acm.png	スタンダード	1.6 KB	Sat Oct 08 02:14:10 GMT+900 2016
icon_amazon_api_gateway.png	スタンダード	4.8 KB	Sat Oct 08 02:14:11 GMT+900 2016
icon_amazon_app_stream.png	スタンダード	3.9 KB	Sat Oct 08 02:14:12 GMT+900 2016
icon_amazon_cloud_front.png	スタンダード	4.2 KB	Sat Oct 08 02:14:12 GMT+900 2016
icon_amazon_cloud_search.png	スタンダード	4 KB	Sat Oct 08 02:14:13 GMT+900 2016
icon_amazon_cloud_watch.png	スタンダード	4.3 KB	Sat Oct 08 02:14:14 GMT+900 2016
icon_amazon_cognito.png	スタンダード	4 KB	Sat Oct 08 02:14:14 GMT+900 2016
icon_amazon_dynamo_db.png	スタンダード	5.4 KB	Sat Oct 08 02:14:15 GMT+900 2016
icon_amazon_ec2.png	スタンダード	2.4 KB	Sat Oct 08 02:14:15 GMT+900 2016
icon_amazon_ecs.png	スタンダード	4.2 KB	Sat Oct 08 02:14:17 GMT+900 2016
icon_amazon_efs.png	スタンダード	4.2 KB	Sat Oct 08 02:14:17 GMT+900 2016
icon_amazon_elastic_cache.png	スタンダード	3.9 KB	Sat Oct 08 02:14:18 GMT+900 2016
icon_amazon_elastic_search_service.png	スタンダード	3 KB	Sat Oct 08 02:14:19 GMT+900 2016
icon_amazon_elastic_transcoder.png	スタンダード	5.9 KB	Sat Oct 08 02:14:20 GMT+900 2016
icon_amazon_emr.png	スタンダード	2.7 KB	Sat Oct 08 02:14:21 GMT+900 2016
icon_amazon_game_lift.png	スタンダード	4.1 KB	Sat Oct 08 02:14:22 GMT+900 2016
icon_amazon_glacier.png	スタンダード	2.5 KB	Sat Oct 08 02:14:24 GMT+900 2016

At the bottom, there are links for 'フィードバック' (Feedback), '日本語' (Japanese), a copyright notice ('© 2008 - 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved.'), and 'プライバシーポリシー' (Privacy Policy) and '利用規約' (Terms of Service).

(1-1)[S3]問題用アイコン画像をアップロード

ファイルを選択してアップロードしてください。



※最低4件は登録してください。

(使用) QuizApp-material/icons/require/ 下の4ファイル

(1-1)[DynamoDB]問題用テーブル作成

- テーブル名：「Services」
- パーミッション：protected

Attribute name	Type	Partition key	Sort key
userId	String	On	-
serviceId	String	-	On
caption	String	-	-
category	String	-	-
description	String	-	-
filename	String	-	-
label	String	-	-

(1-2)[DynamoDB]問題データを登録

[Resources]メニューから、作成したテーブルの編集画面に進みます。

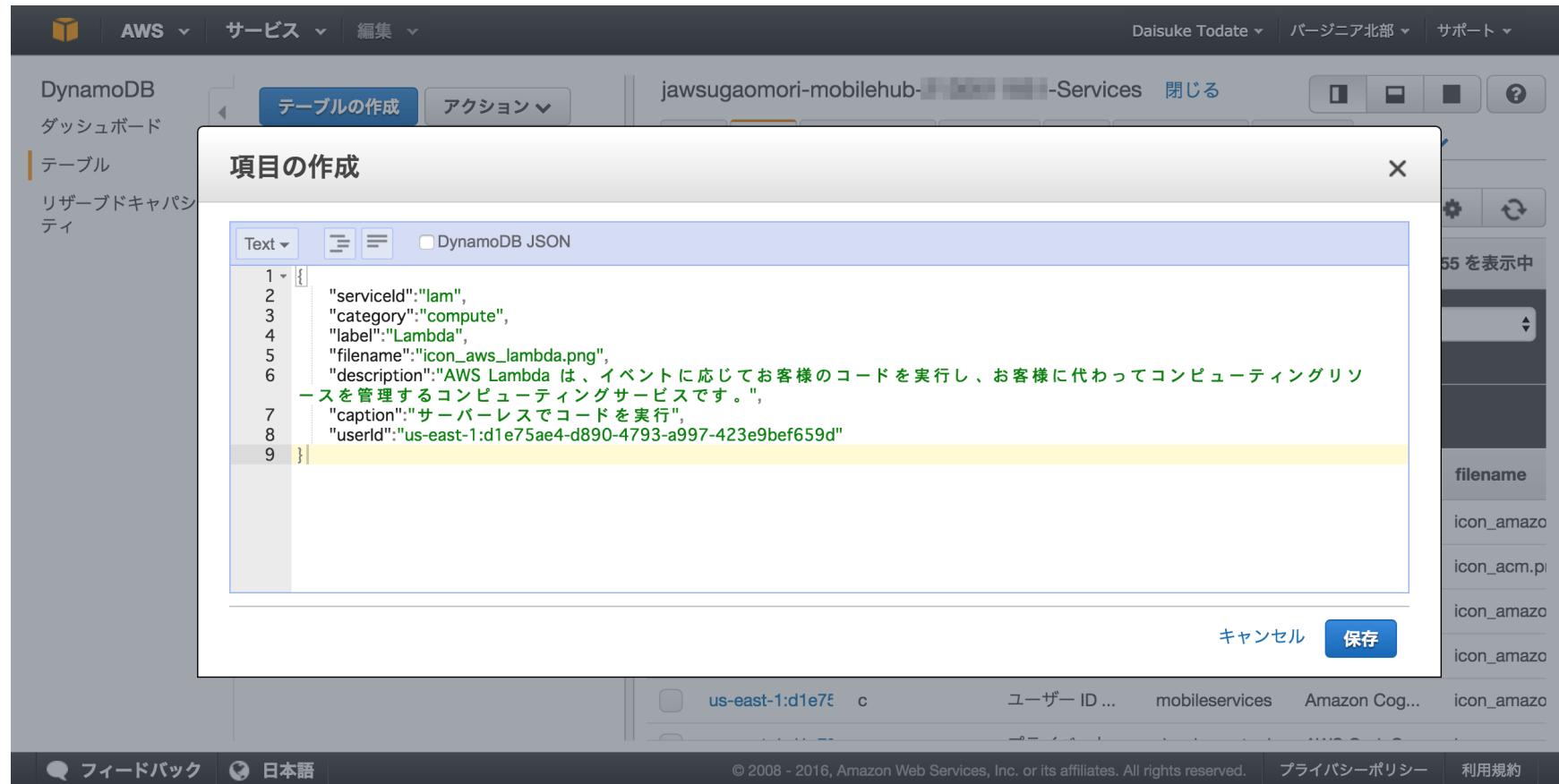
The screenshot shows the AWS DynamoDB console interface. On the left, the navigation bar includes 'AWS' dropdown, 'サービス' dropdown, '編集' dropdown, and user information 'Daisuke Todate' with region 'バージニア北部' and support links. The main left sidebar has 'DynamoDB' selected, with options 'ダッシュボード', 'テーブル', and 'リザーブドキャパシティ'. The 'テーブル' section is active, showing a list of tables: 'jawsugaomori-mobilehub-' (selected), 'jawsugaomori-mobilehub-', and 'awsmobilehubtest-mobilehub-129407!'. The right panel displays the 'jawsugaomori-mobilehub-' table's item editor. The top navigation bar for the editor includes 'Services' (closed), '閉じる' (Close), and tabs: '概要' (Overview) (selected), '項目' (Item), 'メトリックス' (Metrics), 'アラーム' (Alarms), '容量' (Capacity), 'インデックス' (Indexes), 'トリガー' (Triggers), and 'さらに' (More). Below this is a sub-navigation bar with '項目の作成' (Create Item) and 'アクション' (Actions) dropdown. A search bar at the top says 'スキャン: [テーブル] jawsugaomori-mobilehub-' followed by '項目 1 ~ 55 を表示中'. A dropdown menu shows 'スキャン' and '[テーブル] jawsugaomori-mobilehub-' with 'userId, serviceld' selected. A '開始' (Start) button is present. The main table area has columns: 'userId', 'serviceld', 'caption', 'category', 'description', and 'filename'. Five items are listed:

	userId	serviceld	caption	category	description	filename
1	us-east-1:d1e7E	a	アプリケーシ...	mobileservices	Amazon Mob...	icon_amazo...
2	us-east-1:d1e7E	acm	SSL/TLS の...	security_and...	AWS Certific...	icon_acrm.p...
3	us-east-1:d1e7E	ag	API の構築、...	appservices	Amazon API ...	icon_amazo...
4	us-east-1:d1e7E	aps	低レイテンシ...	appservices	Amazon App...	icon_amazo...
5	us-east-1:d1e7E	c	ユーザー ID ...	mobileservices	Amazon Cog...	icon_amazo...

At the bottom, there are footer links: 'フィードバック', '日本語', '© 2008 - 2016, Amazon Web Services, Inc. or its affiliates. All rights reserved.', 'プライバシーポリシー', and '利用規約'.

(1-2)[DynamoDB]問題データを登録

[項目の作成]で、問題用のデータを登録します。



The screenshot shows the AWS Management Console interface for creating a new item in a DynamoDB table. The top navigation bar includes links for AWS services, a user dropdown (Daisuke Todate), and regions (Virginia North). The main window title is "jawsugaomori-mobilehub-...-Services". A modal dialog titled "項目の作成" (Item Creation) is open, containing a text input field with JSON code. The JSON code defines a single item with attributes: serviceId, category, label, filename, description, caption, and userId. The "Text" tab is selected in the modal's toolbar. On the right side of the modal, there is a sidebar with a list of filenames: filename, icon_amazon, icon_acm, icon_amazon, icon_amazon, and icon_amazon. At the bottom of the modal are "キャンセル" (Cancel) and "保存" (Save) buttons. The background of the console shows other tabs and a sidebar with various AWS services.

```
1 {  
2   "serviceId": "lam",  
3   "category": "compute",  
4   "label": "Lambda",  
5   "filename": "icon_aws_lambda.png",  
6   "description": "AWS Lambda は、イベントに応じてお客様のコードを実行し、お客様に代わってコンピューティングリソースを管理するコンピューティングサービスです。",  
7   "caption": "サーバーレスでコードを実行",  
8   "userId": "us-east-1:d1e75ae4-d890-4793-a997-423e9bef659d"  
9 }
```

※最低4件は登録してください。

(使用) QuizApp-material/questions/require/services_json.txt

(3-1)Lambdaに問題取得用の関数を作成

[Enable Logic]をクリック後、[Create a new function...]をクリック

The screenshot shows the AWS Mobile Hub Cloud Logic interface. On the left is a sidebar with icons for Configure, Integrate, Test, Analytics, and Resources. The main area displays a table of available functions:

Function name	Description	Language
<input checked="" type="checkbox"/> getRandomQuestion4	A simple mobile backend (read/write to DynamoDB).	Edit
<input type="checkbox"/>		Edit
<input type="checkbox"/>		NodeJS Edit
<input checked="" type="checkbox"/> hello-world	A starter AWS Lambda function.	NodeJS Edit
<input checked="" type="checkbox"/> simple-mobile-backend-test	A simple mobile backend (read/write to DynamoDB).	Edit

At the bottom, there are buttons for "Configure more features" and "Integrate with my app".

Mobile Hub > JawsUG_Aomori201610 > Cloud Logic

Daisuke Todate Support

Configure

Integrate

Test

Analytics

Resources

Which functions would you like to invoke from your app?

Cloud Logic allows you to deploy app logic to the cloud. Mobile Hub creates a default "hello-world" function for you which simply echos the value set for the key/value pair input with "key1" as its key.

Function name

Description

Language

getRandomQuestion4 A simple mobile backend (read/write to DynamoDB). [Edit](#)

[REDACTED] [REDACTED] [Edit](#)

[REDACTED] [REDACTED] NodeJS [Edit](#)

hello-world A starter AWS Lambda function. NodeJS [Edit](#)

simple-mobile-backend-test A simple mobile backend (read/write to DynamoDB). [Edit](#)

Create a new function...

Configure more features

Integrate with my app

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(3-2)blueprintで[simple-mobile-backend]を選択

[dynamo]でフィルターをかけるとすぐ見つかります。

The screenshot shows the AWS Lambda 'Select blueprint' step. At the top, there's a navigation bar with icons for AWS, Services, and Edit, and user information for Daisuke Todate. Below the navigation bar, the path 'Lambda > New function' is shown. On the left, a sidebar has 'Select blueprint' selected, followed by 'Configure triggers', 'Configure function', and 'Review'. The main area is titled 'Select blueprint' with a help icon. It contains a search bar with 'Select runtime ▾' and 'dynamo' typed in. Below the search bar, it says 'Viewing 1-5 of 5'. There are five blueprint cards displayed:

- dynamodb-process-stream**: An Amazon DynamoDB trigger that logs the updates made to a table. Runtime: nodejs · dynamodb.
- microservice-http-endpoint**: A simple backend (read/write to DynamoDB) with a RESTful API endpoint using Amazon API Gateway. Runtime: nodejs · api-gateway.
- simple-mobile-backend**: A simple mobile backend (read/write to DynamoDB). Runtime: nodejs · mobile.
- dynamodb-process-stream-p...**: An Amazon DynamoDB trigger that logs the updates made to a table. Runtime: python2.7 · dynamodb.
- microservice-http-endpoint-py...**: A simple backend (read/write to DynamoDB) with a RESTful API endpoint using Amazon API Gateway. Runtime: python2.7 · api-gateway.

At the bottom right, there are 'Cancel' and 'Skip' buttons.

(3-3)そのまま[next]を選択

Lambda > New function using blueprint simple-mobile-backend

Select blueprint

Configure triggers

Configure function

Review

Configure triggers

Configure an optional trigger to automatically invoke your function.

Remove

Cancel Previous Next

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(3-4)関数を作成していく

Name

「getRandomQuestion4」にしてください

Runtime

「Node.js 4.3」のまま

Lambda function code

QuizApp-material/lambda_functions/getRandomQuestion4.txt の中身
をコピペしてください

(続き)

Role

「Choose an existing role」を選択

Existing role

「(PROJECTNAME)_lambdaexecutionrole_MOBILEHUB_xxxxxx
xxxxxx」(自動作成されたもの)に変更

Time out

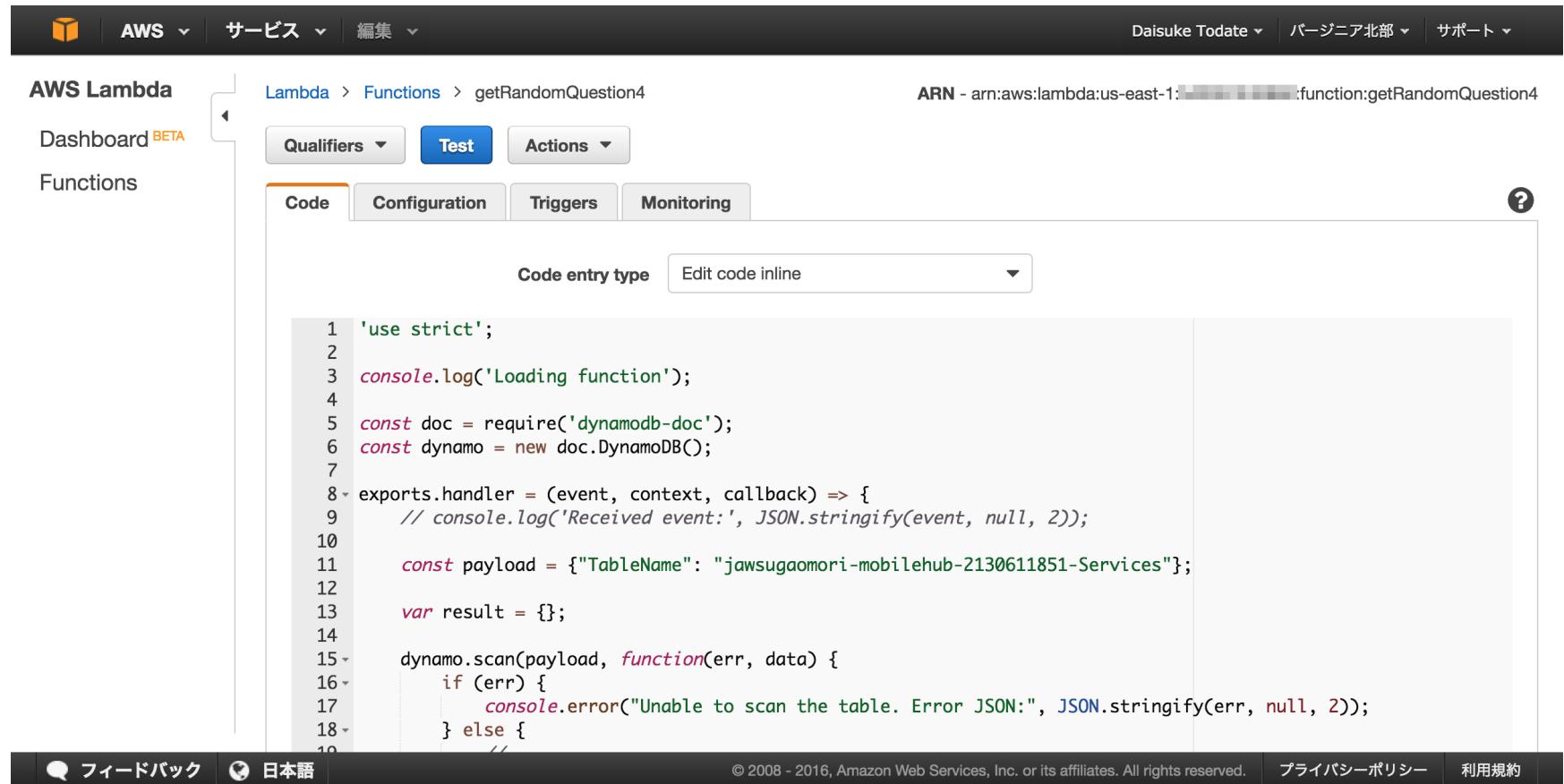
「0min 5sec」に変更(念のため)

終わったら...

[Next] -> [Create]を押して関数を作成します

(3-4)作った関数をテストしてみる

正常に取得できるか確認してください。



The screenshot shows the AWS Lambda function editor for a function named 'getRandomQuestion4'. The interface includes a navigation bar with AWS services like CloudWatch Metrics, Lambda, and Step Functions, and user information like 'Daisuke Todate' and 'バージニア北部'. The main area displays the function's configuration, including its ARN: 'arn:aws:lambda:us-east-1:...:function:getRandomQuestion4'. Below this, there are tabs for Qualifiers, Test (which is selected), and Actions. The 'Code' tab is active, showing the following JavaScript code:

```
1 'use strict';
2
3 console.log('Loading function');
4
5 const doc = require('dynamodb-doc');
6 const dynamo = new doc.DynamoDB();
7
8 exports.handler = (event, context, callback) => {
9     // console.log('Received event:', JSON.stringify(event, null, 2));
10
11     const payload = {"TableName": "jawsugaomori-mobilehub-2130611851-Services"};
12
13     var result = {};
14
15     dynamo.scan(payload, function(err, data) {
16         if (err) {
17             console.error("Unable to scan the table. Error JSON:", JSON.stringify(err, null, 2));
18         } else {
19             //
```

The code uses the 'dynamodb-doc' library to interact with a DynamoDB table named 'jawsugaomori-mobilehub-2130611851-Services'. It logs the loading of the function, requires the library, creates a dynamo object, defines a handler function, and scans the specified table.

※たぶん失敗します。

(3-5)IAM Roleの編集

[Resources]メニューから、自動作成されたLambda用のIAM Roleを選択すると、IAM Roleの編集画面に遷移します。

The screenshot shows the AWS Mobile Hub interface for the app "JawsUG_Aomori201610". The left sidebar has a "Resources" tab selected. The main content area displays two sections: "User Data Storage and App Content Delivery" and "AWS Identity and Access Management Roles".

User Data Storage and App Content Delivery:

- have provisioned buckets for User Data Storage and for App Content Delivery.
- [jawsugaomori-userfiles-mobilehub-\[REDACTED\]](#)
- [jawsugaomori-contentdelivery-mobilehub-\[REDACTED\]](#)

AWS Identity and Access Management Roles:

AWS Identity and Access Management (IAM) securely controls access to AWS services and resources. The following IAM roles provide Mobile Hub the permissions it needs to administer your resources and provide your users access to the features you configure.

- MobileHub_Service_Role**
- [jawsugaomori_unauth_MOBILEHUB-\[REDACTED\]](#)
- [jawsugaomori_lambdaexecutionrole_MOBILEHUB-\[REDACTED\]](#)

On the right side of the screen, there are navigation links for "Daisuke Todate" and "Support", and a back arrow icon.

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(3-5) IAM Roleの編集

下の方にある[ポリシーの編集]をクリックします



(3-5)IAM Roleの編集

dynamoDBへのアクセスを許可するように書き換えて適用します

The screenshot shows the AWS IAM Policy Editor interface. The top navigation bar includes the AWS logo, a search bar, and links for 'AWS', 'サービス', '編集', 'Daisuke Todate', 'グローバル', and 'サポート'. On the left, a sidebar titled 'ポリシーの管理' lists policies. The main area is titled 'ポリシーの確認' and contains the following text: '以下のポリシードキュメントを編集してアクセス権限をカスタマイズします。アクセスポリシー言語の詳細については、『IAM の使用』の「[ポリシーの概要](#)」を参照してください。変更を適用する前に、このポリシーの影響をテストするには、[IAM Policy Simulator](#) を使用します。' Below this is a 'Policy Name' field containing 'jawsugaomori_lambdaexecution_MOBILEHUB_[REDACTED]'. The 'Policy Document' section displays a JSON-based policy:

```
1 {  
2   "Version": "2012-10-17",  
3   "Statement": [  
4     {  
5       "Action": [  
6         "dynamodb:GetItem",  
7         "dynamodb:Query",  
8         "dynamodb:Scan"  
9       ],  
10      "Effect": "Allow",  
11      "Resource": [  
12        "arn:aws:dynamodb:us-east-1:[REDACTED]:table/jawsugaomori-mobilehub-[REDACTED]  
-Services"  
13      ]  
14    },  
15  ]
```

At the bottom, there is a checked checkbox for 'Policy Document' auto-formatting, and three buttons: 'キャンセル', 'Policy Check', and 'Policy Apply'.

※自分の作ったテーブルのARNを指定してください。

(3-6)再度テストしてみる

正常に取得できるか確認してください。

The screenshot shows the AWS Lambda Test interface for a function named 'getRandomQuestion4'. The interface includes a sidebar with 'Dashboard BETA' and 'Functions', and a main area with tabs for 'Qualifiers', 'Test' (which is selected), and 'Actions'. Below these are tabs for 'Code', 'Configuration', 'Triggers', and 'Monitoring'. The 'Code' tab is active, showing the following code:

```
1 'use strict';
2
3 console.log('Loading function');
```

Below the code, a message indicates a successful execution:

Execution result: succeeded (logs)

The log output section shows the following JSON response:

```
{"count":4,"sentence":"このアイコンが示すサービスは?", "questions": [{"filename": "icon_amazon_ec2.png", "serviceId": "ec2", "label": "Amazon EC2"}]}
```

The 'Summary' section displays the SHA-256 hash of the code and the Request ID (11102f5d-8eef-11e6-b370-).

The 'Log output' section provides instructions to view the CloudWatch log group.

At the bottom, there are links for feedback, Japanese language support, and AWS terms of service.

(3-7) 作成した関数をSDKで使用できるようにする

作成した関数にチェックを入れて保存します。

The screenshot shows the AWS Mobile Hub Cloud Logic interface. On the left is a sidebar with icons for Configure, Integrate, Test, Analytics, and Resources. The main area displays a table of functions:

Function name	Description	Language
<input checked="" type="checkbox"/> getRandomQuestion4	A simple mobile backend (read/write to DynamoDB).	Edit
[REDACTED]	[REDACTED]	Edit
[REDACTED]	[REDACTED]	NodeJS Edit
<input type="checkbox"/> hello-world	A starter AWS Lambda function.	NodeJS Edit
<input type="checkbox"/> simple-mobile-backend-test	A simple mobile backend (read/write to DynamoDB).	Edit

At the bottom are two buttons: "Save changes" and "Cancel changes".

Mobile Hub > JawsUG_Aomori201610 > Cloud Logic

Daisuke Todate Support

Configure

Integrate

Test

Analytics

Resources

Which functions would you like to invoke from your app?

Cloud Logic allows you to deploy app logic to the cloud. Mobile Hub creates a default "hello-world" function for you which simply echos the value set for the key/value pair input with "key1" as its key.

Save changes Cancel changes

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(4)SDKをダウンロード

The screenshot shows the AWS Mobile Hub console interface. The top navigation bar includes 'Mobile Hub > JawsUG_Aomori201610', the user 'Daisuke Todate', and a 'Support' link. On the left, there's a vertical sidebar with icons for 'Configure' (selected), 'Integrate', 'Test', 'Analytics', and 'Resources'. The main content area is titled 'Option 2: Use AWS SDKs and custom source code'. It lists three steps: 1. Download SDK and custom source code (with a 'Download package' button), 2. Allow Network Access (with instructions and XML code snippets), and 3. Add AWS SDKs to Gradle Build (with instructions). The 'Android' tab is selected in the top navigation bar.

Mobile Hub > JawsUG_Aomori201610

Daisuke Todate Support

iOS Swift iOS Obj-C Android

Getting Started

Setup Steps

Overview

Option 1: Use a Mobile Hub sample app

Option 2: Use AWS SDKs and custom source code

Updating Project Features

Next steps

User Sign-in

NoSQL Database

User Data Storage

App Analytics

Cloud Logic

App Content Delivery

Option 2: Use AWS SDKs and custom source code

1 Download SDK and custom source code

Download this package which contains the required SDKs (software development kits) that will be used to support your project. Use the links at the left to find integration guidance for each Mobile Hub feature you have selected.

Download package

2 Allow Network Access

In order for your app to use AWS resources, it must enable access to the internet. In Android Studio, open app/manifests/AndroidManifest.xml and make sure the following configuration is present in the manifest file.

```
1 <uses-permission android:name="android.permission.INTERNET" />
2 <uses-permission android:name="android.permission.ACCESS_NETWORK_STATE" />
3 <uses-permission android:name="android.permission.ACCESS_WIFI_STATE" />
```

3 Add AWS SDKs to Gradle Build

To ensure that Gradle is configured to import the AWS SDKs at build-time, add the following dependencies to your Android Studio project's app/build.gradle file. Note that this is a one time step and shared by all the features configured for the project.

```
dependencies {
```

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(5)Androidのプロジェクト内にSDKを配置

DLしたSDK(`src/main/java/`以下の全て)を
`QuizApp/app/src/main/java/`の下に移動してください。

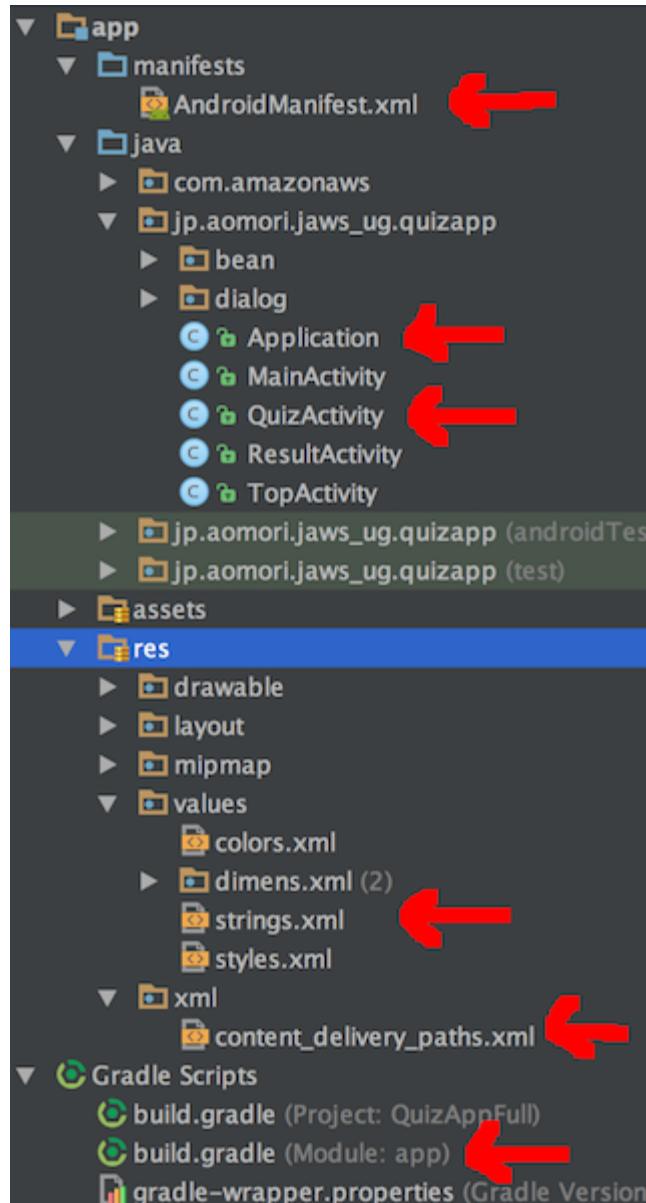
(6)ソースの必要な部分を書き換え

基本的にコピペかコメントアウトの作業しかしません。

(作業対象)

1. string.xml
2. AndroidManifest.xml
3. xml/content_delivery_paths.xmlを追加
4. build.gradle **(注意)app**フォルダ配下のファイルです
5. QuizActivity
6. Application

Android Studio上では、以下の場所のファイルになります



(6-1)string.xml

資料内 `material/sources/paste_to_string_xml.txt` を参考に作業してください。

(6-2)AndroidManifest.xml

資料内 `material/sources/paste_to_AndroidManifest_xml.txt` を参考
に作業してください。

(6-3)xml/content_delivery_paths.xmlを追加

1. QuizApp/app/src/main/res/ の下に xml フォルダを作成してください。
2. 資料内 material/sources/xml/content_delivery_paths.xml を、作成したフォルダ内に移動してください。

(6-4)build.gradle

(1)以下の部分のコメントアウトを解除してください。

```
compile('com.amazonaws:aws-android-sdk-core:2.2.18')
compile('com.amazonaws:aws-android-sdk-cognito:2.2.18')
compile('com.amazonaws:aws-android-sdk-s3:2.2.18')
compile('com.amazonaws:aws-android-sdk-ddb:2.2.18')
compile('com.amazonaws:aws-android-sdk-ddb-mapper:2.2.18')
compile('com.amazonaws:aws-android-sdk-mobileanalytics:2.2.18')
compile('com.amazonaws:aws-android-sdk-lambda:2.2.18')
```

(2)画面上記に黄色帯で[Sync Now]が出てきたら、押して同期させてください。

(6-5)QuizActivity

資料内 `material/sources/paste_to_QuizActivity.txt` を参考に作業してください。

※importの解決は `alt + enter` で行ってください。

(6-6)Application

以下の部分のコメントアウトを解除してください。

```
private void initializeApplication() {  
    AWSMobileClient.initializeMobileClientIfNecessary(  
        getApplicationContext());  
}
```

※importの解決は alt + enter で行ってください。

(7)動作確認

おわりに