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Building a virtual photo booth with AWS Amplify

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Agenda

- Why virtual photo booth
- Why AWS Amplify ?
- Architecture walkthrough



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"Problems are nothing but wake-up calls for creativity" – Gerhard Gschwandtner

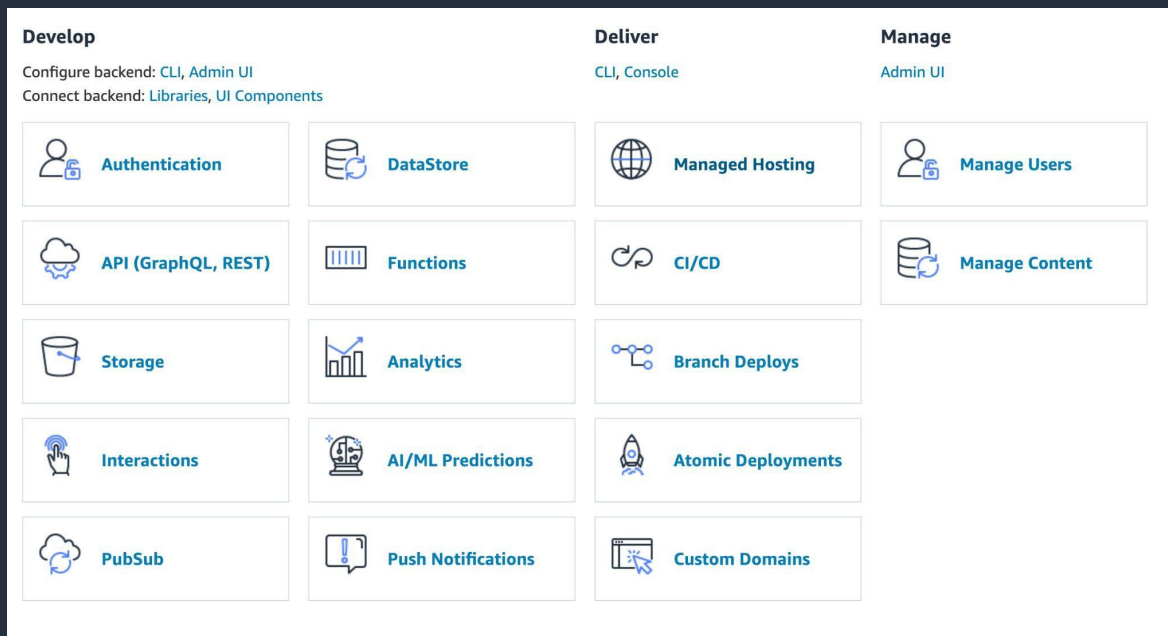




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Why AWS Amplify ?

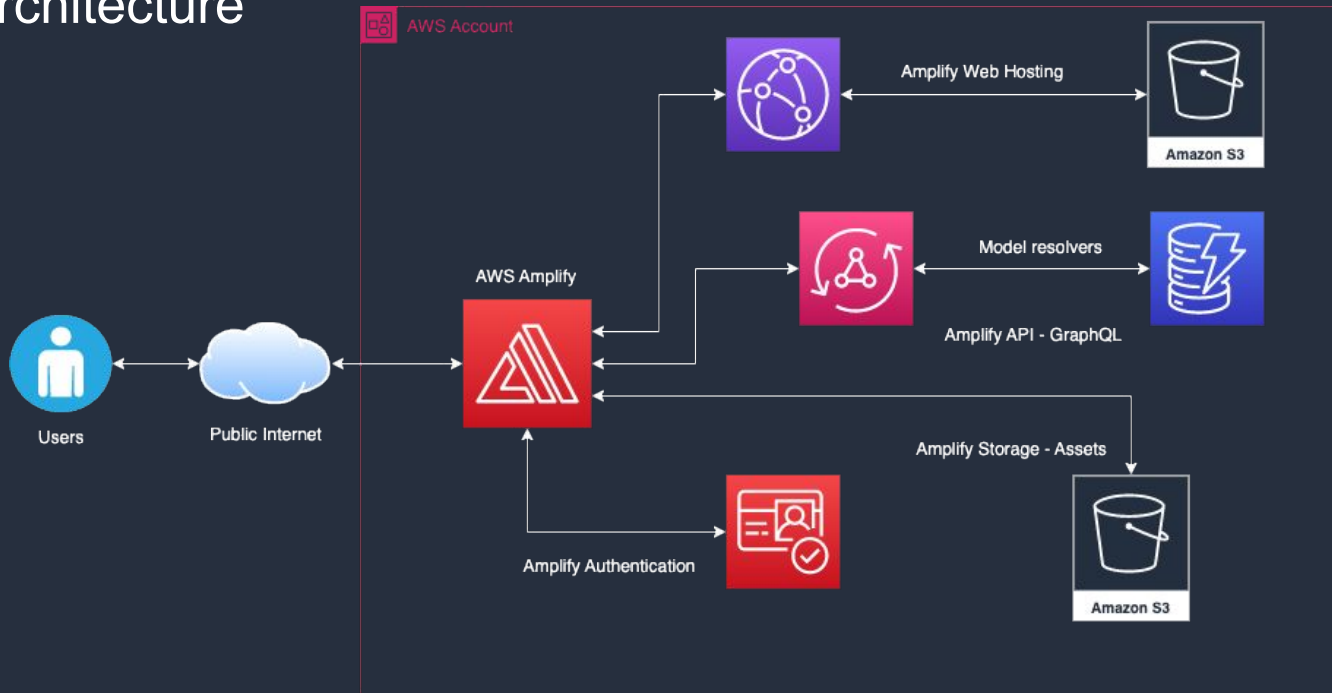




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Architecture





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amplify init



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```
jnoeln@FWS-CHE-LT-7726 app % amplify init
Note: It is recommended to run this command from the root of your app directory
? Do you want to use an existing environment? No
? Enter a name for the environment acdpune
Using default provider awscloudformation
? Select the authentication method you want to use: AWS profile
```

For more information on AWS Profiles, see:
<https://docs.aws.amazon.com/cli/latest/userguide/cli-configure-profiles.html>

? Please choose the profile you want to use zachjonesnoel-amplify
Adding backend environment acdpune to AWS Amplify app: d1sf8u6p8dmeg4

Deployment completed.

```
Deployed root stack vpdev [ ===== ] 4/4
  amplify-vpdev-acdpune-225022    AWS::CloudFormation::Stack    CREATE_COMPLETE    Wed Dec 07 2022 22:50:58...
  DeploymentBucket               AWS::S3::Bucket          CREATE_COMPLETE     Wed Dec 07 2022 22:50:56...
  UnauthRole                     AWS::IAM::Role           CREATE_COMPLETE     Wed Dec 07 2022 22:50:54...
  AuthRole                       AWS::IAM::Role           CREATE_COMPLETE     Wed Dec 07 2022 22:50:54...
```

Deployment bucket fetched.

⚙ Initializing your environment: acdpune

⚠ WARNING: your GraphQL API currently allows public create, read, update, and delete access to all models via an API Key. To configure PRODUCTION-READY authorization rules, review: <https://docs.amplify.aws/cli/graphql/authorization-rules>

⚙ Building resource api/vpdev✅ GraphQL schema compiled successfully.

Edit your schema at /Users/jnoeln/Documents/Projects/virtual-photobooth-avinash/repo/virtual-photobooth/app/amplify/backend/api/vpdev/schema.graphql or place .graphql files in a directory at /Users/jnoeln/Documents/Projects/virtual-photobooth-avinash/repo/virtual-photobooth/app/amplify/backend/api/vpdev/schema

✓ Initialized provider successfully.

✅ Initialized your environment successfully.

Your project has been successfully initialized and connected to the cloud!

Some next steps:

"amplify status" will show you what you've added already and if it's locally configured or deployed

"amplify add <category>" will allow you to add features like user login or a backend API

"amplify push" will build all your local backend resources and provision it in the cloud

"amplify console" to open the Amplify Console and view your project status

"amplify publish" will build all your local backend and frontend resources (if you have hosting category added) and provision it in the cloud

Pro tip:

Try "amplify add api" to create a backend API and then "amplify push" to deploy everything



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amplify add auth



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```
jnoeln@FWS-CHE-LT-7726 app % amplify add auth
Using service: Cognito, provided by: awscloudformation
```

The current configured provider is Amazon Cognito.

Do you want to use the default authentication and security configuration? Default configuration

Warning: you will not be able to edit these selections.

How do you want users to be able to sign in? Username

Do you want to configure advanced settings? No, I am done.

✔ Successfully added auth resource vpdev681d8227 locally

✔ Some next steps:

"amplify push" will build all your local backend resources and provision it in the cloud

"amplify publish" will build all your local backend and frontend resources (if you have hosting category added) and provision it in the cloud



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amplify add api



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```
jnoeln@FWS-CHE-LT-7726 app % amplify add api
```

```
? Select from one of the below mentioned services: GraphQL
```

```
? Here is the GraphQL API that we will create. Select a setting to edit or continue Authorization modes: API key (default, expiration time: 7 days from now)
```

```
? Choose the default authorization type for the API API key
```

```
✓ Enter a description for the API key: · API for AppSync
```

```
✓ After how many days from now the API key should expire (1-365): · 90
```

```
? Configure additional auth types? No
```

```
? Here is the GraphQL API that we will create. Select a setting to edit or continue Continue
```

```
? Choose a schema template: Blank Schema
```

```
▲ WARNING: your GraphQL API currently allows public create, read, update, and delete access to all models via an API Key. To configure PRODUCTION-READY authorization rules, review: https://docs.amplify.aws/cli/graphql/authorization-rules
```

```
✓ GraphQL schema compiled successfully.
```

```
Edit your schema at /Users/jnoeln/Documents/Projects/virtual-photobooth-avinash/app/amplify/backend/api/vpdev/schema.graphql or place .graphql files in a directory at /Users/jnoeln/Documents/Projects/virtual-photobooth-avinash/app/amplify/backend/api/vpdev/schema
```

```
✓ Do you want to edit the schema now? (Y/n) · yes
```

```
Couldn't find selected code editor (Visual Studio Code) on your machine.
```

```
? Try opening with system-default editor instead? Yes
```

```
✓ Successfully added resource vpdev locally
```

```
✓ Some next steps:
```

```
"amplify push" will build all your local backend resources and provision it in the cloud
```

```
"amplify publish" will build all your local backend and frontend resources (if you have hosting category added) and provision it in the cloud
```



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```
type Template @model {  
  id: ID!  
  name: String!  
  description: String  
  image: String!  
}
```

```
{  
  type Mutation {  
    createTemplate(input: CreateTemplateInput!, condition: ModelTemplateConditionInput): Template  
    updateTemplate(input: UpdateTemplateInput!, condition: ModelTemplateConditionInput): Template  
    deleteTemplate(input: DeleteTemplateInput!, condition: ModelTemplateConditionInput): Template  
  }  
  
  type Query {  
    getTemplate(id: ID!): Template  
    listTemplates(filter: ModelTemplateFilterInput, limit: Int, nextToken: String):  
ModelTemplateConnection  
  }  
  
  type Subscription {  
    onCreateTemplate(filter: ModelSubscriptionTemplateFilterInput): Template  
      @aws_subscribe(mutations: ["createTemplate"])  
    onUpdateTemplate(filter: ModelSubscriptionTemplateFilterInput): Template  
      @aws_subscribe(mutations: ["updateTemplate"])  
    onDeleteTemplate(filter: ModelSubscriptionTemplateFilterInput): Template  
      @aws_subscribe(mutations: ["deleteTemplate"])  
  }  
  
  type Template {  
    id: ID!  
    name: String!  
    description: String  
    image: String!  
    createdAt: AWSDateTime!  
    updatedAt: AWSDateTime!  
  }  
}
```




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```
// Invoking mutations from Front-end
async function createTemplate(){
  await API.graphql({
    query: createTemplate,
    variables: { input: postInfo }
  });
}

// Invoking queries from Front-end
async function listTemplate(){
  await API.graphql({
    query: listTemplates,
    variables: { limit: 100 }
  })
}
```

```
export const createTemplate = /* GraphQL */ `
  mutation CreateTemplate(
    $input: CreateTemplateInput!
    $condition: ModelTemplateConditionInput
  ) {
    createTemplate(input: $input, condition: $condition) {
      id
      name
      description
      image
      createdAt
      updatedAt
    }
  }
`;

export const listTemplates = /* GraphQL */ `
  query ListTemplates(
    $filter: ModelTemplateFilterInput
    $limit: Int
    $nextToken: String
  ) {
    listTemplates(filter: $filter, limit: $limit, nextToken:
    $nextToken) {
      items {
        id
        name
        description
        image
        createdAt
        updatedAt
      }
      nextToken
    }
  }
`;
```



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amplify add storage



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```
jnoeln@FWS-CHE-LT-7726 app % amplify add storage
? Select from one of the below mentioned services: Content (Images, audio, video, etc.)
✓ Provide a friendly name for your resource that will be used to label this category in the project: · s3828656dd
✓ Provide bucket name: · vpdevc8bda844c3aa4e2b931abee9358ea63
✓ Who should have access: · Auth and guest users
✓ What kind of access do you want for Authenticated users? · create/update, read, delete
✓ What kind of access do you want for Guest users? · create/update, read, delete
✓ Do you want to add a Lambda Trigger for your S3 Bucket? (y/N) · no
△ Auth configuration is required to allow unauthenticated users, but it is not configured properly.
✓ Successfully updated auth resource locally.
✓ Successfully added resource s3828656dd locally

△ If a user is part of a user pool group, run "amplify update storage" to enable IAM group policies for CRUD operations
✓ Some next steps:
"amplify push" builds all of your local backend resources and provisions them in the cloud
"amplify publish" builds all of your local backend and front-end resources (if you added hosting category) and provisions them in the cloud
```

```
// Using Storage to perform S3 PutObject
await Storage.put(formState.image.name, formState.image.fileInfo);

// Using Storage to get S3 object
await Storage.get(currentPost.image, { download: true });
await Storage.get(currentPost.image);
```



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amplify add hosting



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```
jnoeln@FWS-CHE-LT-7726 app % amplify add hosting
```

```
✓ Select the plugin module to execute · Hosting with Amplify Console (Managed hosting with custom domains, Continuous deployment)
```

```
? Choose a type Manual deployment
```

You can now publish your app using the following command:

```
Command: amplify publish
```



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amplify status



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```
jnoeln@FWS-CHE-LT-7726 app % amplify status
```

Current Environment: acdpune

Category	Resource name	Operation	Provider plugin
Api	vpdev	Create	awscloudformation
Auth	vpdev21bcea36	Create	awscloudformation
Storage	s369d9a8f4	Create	awscloudformation
Hosting	S3AndCloudFront	Create	awscloudformation
Hosting	amplifyhosting	Create	awscloudformation

GraphQL transformer version: 2

Amplify hosting urls:

FrontEnd Env	Domain
dev	https://dev.d1sf8u6p8dmeg4.amplifyapp.com



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amplify publish



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Deployed root stack acdpune [=====] 5/5		
amplify-acdpune-dev-231940	AWS::CloudFormation::Stack	UPDATE_COMPLETE
storages355c05307	AWS::CloudFormation::Stack	CREATE_COMPLETE
authacdpune61417c7	AWS::CloudFormation::Stack	CREATE_COMPLETE
apiacdpune	AWS::CloudFormation::Stack	CREATE_COMPLETE
hostingamplifyhosting	AWS::CloudFormation::Stack	CREATE_COMPLETE
Deployed auth acdpune61417c7 [=====] 10/10		
UserPool	AWS::Cognito::UserPool	CREATE_COMPLETE
UserPoolClientWeb	AWS::Cognito::UserPoolClient	CREATE_COMPLETE
UserPoolClient	AWS::Cognito::UserPoolClient	CREATE_COMPLETE
UserPoolClientRole	AWS::IAM::Role	CREATE_COMPLETE
UserPoolClientLambda	AWS::Lambda::Function	CREATE_COMPLETE
UserPoolClientLambdaPolicy	AWS::IAM::Policy	CREATE_COMPLETE
UserPoolClientLogPolicy	AWS::IAM::Policy	CREATE_COMPLETE
UserPoolClientInputs	Custom::LambdaCallout	CREATE_COMPLETE
IdentityPool	AWS::Cognito::IdentityPool	CREATE_COMPLETE
IdentityPoolRoleMap	AWS::Cognito::IdentityPoolRoleMap	CREATE_COMPLETE
Deployed api acdpune [=====] 6/6		
GraphQLAPI	AWS::AppSync::GraphQLApi	CREATE_COMPLETE
GraphQLAPIDefaultApiKey215A6D...	AWS::AppSync::ApiKey	CREATE_COMPLETE
GraphQLAPITransformerSchema3C...	AWS::AppSync::GraphQLSchema	CREATE_COMPLETE
GraphQLAPINONEDS95A13CF0	AWS::AppSync::DataSource	CREATE_COMPLETE
Todo	AWS::CloudFormation::Stack	CREATE_COMPLETE
CustomResourcesjson	AWS::CloudFormation::Stack	CREATE_COMPLETE
Deployed storage s355c05307 [=====] 7/7		
S3Bucket	AWS::S3::Bucket	CREATE_COMPLETE
S3AuthProtectedPolicy	AWS::IAM::Policy	CREATE_COMPLETE
S3AuthPublicPolicy	AWS::IAM::Policy	CREATE_COMPLETE
S3AuthReadPolicy	AWS::IAM::Policy	CREATE_COMPLETE
S3AuthUploadPolicy	AWS::IAM::Policy	CREATE_COMPLETE
S3AuthPrivatePolicy	AWS::IAM::Policy	CREATE_COMPLETE
Deployed hosting amplifyhosting [=====] 1/1		
AmplifyBranch	AWS::Amplify::Branch	CREATE_COMPLETE



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Demo

<https://vp.avinashdalvi.com>





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**Success
Story!**

Introducing





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Q&A



@zachjonesnoel



@AvinashDalvi_





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Thank you!

See you at the AWS Community Day Pune 2023

