Application Architecture

Construction Site

AWS DeepLens

Inference Lambda

Amazon SageMaker

AWS DeepLens Console

Amazon S3 Training/Validation data

Amazon CloudWatch

Project (Model + Lambda)

Detect person and send image

Amazon S3

Recognize Object Lambda function

Send violation log

Detect if person is not wearing helmet
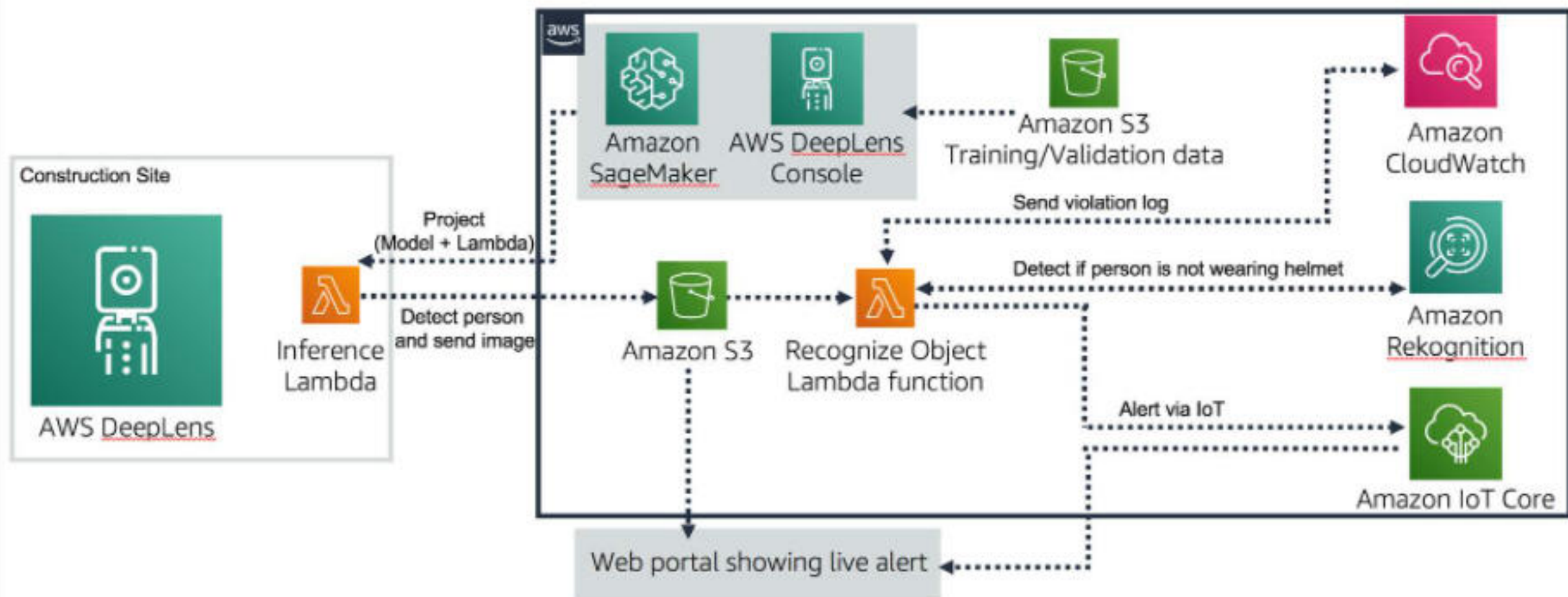
Amazon Rekognition

Alert via IoT

Amazon IoT Core

Web portal showing live alert

The object detection project is bundled with a model and Lambda function
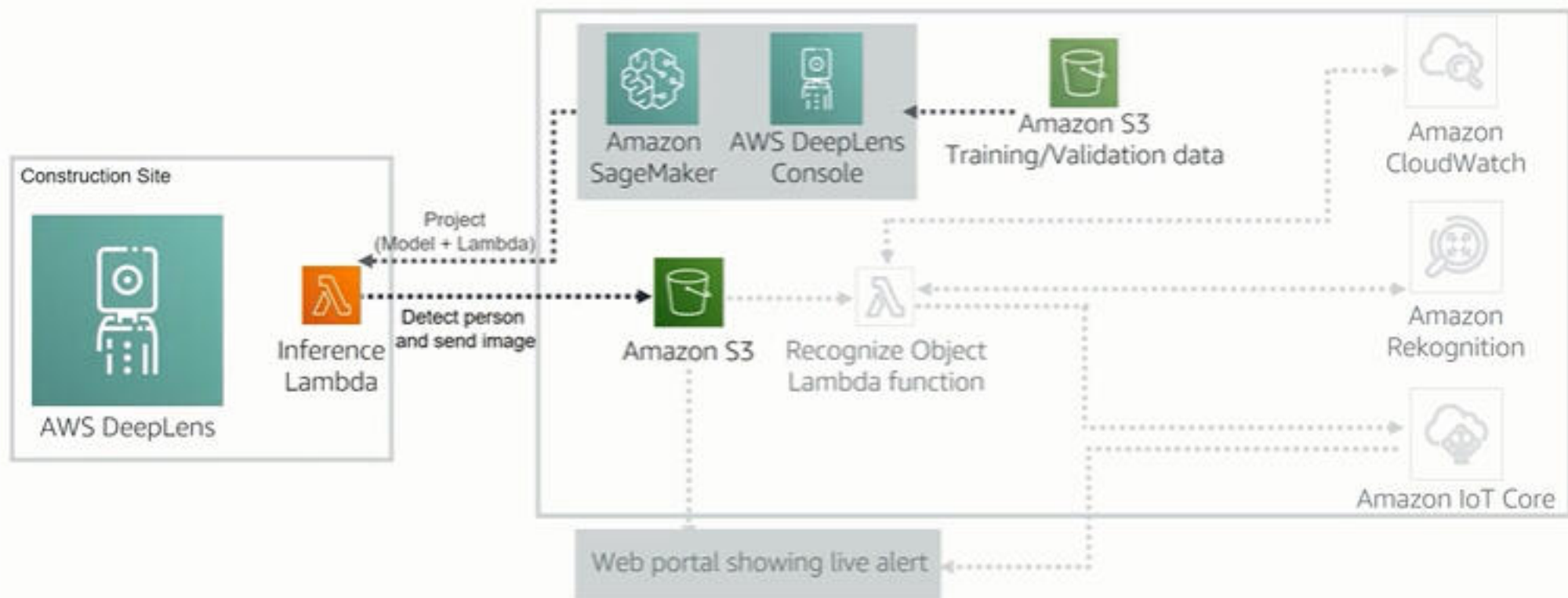
Object detection sample project

Inference Lambda function

Model (Amazon SageMaker)

Detects 20 different objects
- People
- Dogs
- Trees
- Etc.

Create and deploy the project to the device

aws training and certification

Construction Site

AWS DeepLens → Inference Lambda

Project (Model + Lambda)

Detect person and send image

Amazon SageMaker | AWS DeepLens Console

Amazon S3 Training/Validation data

Amazon CloudWatch

Amazon S3 → Recognize Object Lambda function

Amazon Rekognition

Amazon IoT Core

Web portal showing live alert

Create and deploy the project to the device

Construction Site

AWS DeepLens

Inference Lambda

Project (Model + Lambda)

Detect person and send image

Amazon SageMaker

AWS DeepLens Console

Amazon S3 Training/Validation data

Amazon S3

Recognize Object Lambda function

Amazon CloudWatch

Amazon Rekognition

Amazon IoT Core

Web portal showing live alert

-1:26

aws

Services ▾   Resource Groups ▾   ★

🔔   Global ▾   Support ▾

Create role

① ② ③ ④

Select type of trusted entity

AWS service	Another AWS account	Web identity	SAML 2.0 federation
EC2, Lambda and others	Belonging to you or 3rd party	Cognito or any OpenID provider	Your corporate directory

Allows AWS services to perform actions on your behalf. Learn more

Choose the service that will use this role

EC2
Allows EC2 instances to call AWS services on your behalf.

Lambda
Allows Lambda functions to call AWS services on your behalf.

API Gateway	CodeBuild	EKS	Lambda	SMS
AWS Backup	CodeDeploy	EMR	Lex	SNS
AWS Support	Config	ElastiCache	License Manager	SWF
Amplify	Connect	Elastic Beanstalk	Machine Learning	SageMaker
AppSync	DMS	Elastic Container Service	Macie	Security Hub

⏸   * Required   ●————————————————   -3:25   Cancel   Next: Permissions   ⛶   🔊

aws   Services ⌄   Resource Groups ⌄   ★   🔔   Global ⌄   Support ⌄

Create policy   ⟳

Filter policies ⌄   🔍 cloudwatch   Showing 17 results

	Policy name ▾	Used as	Description
☐ ▸	📦 CloudWatchEventsBuiltinTargetExecutionAccess	*None*	Allows built-in targets in Amazon Cloud...
☐ ▸	📦 CloudWatchEventsFullAccess	*None*	Provides full access to Amazon CloudW...
☐ ▸	📦 CloudWatchEventsInvocationAccess	*None*	Allows Amazon CloudWatch Events to re...
☐ ▸	📦 CloudWatchEventsReadOnlyAccess	*None*	Provides read only access to Amazon Cl...
☐ ▸	📦 CloudWatchEventsServiceRolePolicy	*None*	Allow AWS CloudWatch to execute actio...
☐ ▸	📦 CloudWatchFullAccess	Permissions policy (11)	Provides full access to CloudWatch.
☐ ▸	📦 CloudWatchLogsFullAccess	Permissions policy (7)	Provides full access to CloudWatch Logs
☐ ▸	📦 CloudWatchLogsReadOnlyAccess	*None*	Provides read only access to CloudWatc...

▸ Set permissions boundary

* Required   Cancel   Previous   **Next: Tags**

aws

Services ⌄ Resource Groups ⌄ ★

🔔 ▢▢▢▢▢▢ Global ⌄ Support ⌄

Create policy

⟳

Filter policies ⌄   🔍 iotdata

Showing 1 result

		Policy name ⌄	Used as	Description
☑	▸	🛡 AWSIoTDataAccess	Permissions policy (11)	This policy gives full access to the AWS I...

▸ Set permissions boundary

⏸   * Required   ●━━━━━━━━━━━━━━━   2:40   ⛶   🔊

Cancel   Previous   Next: Tags

Services ▾   Resource Groups ▾   ★

🔔   ▢▢▢▢▢▢▢▢   Global ▾   Support ▾

AWS Backup	CloudDeploy	EMR	EC2	SNS
AWS Support	Config	ElastiCache	License Manager	SWF
Amplify	Connect	Elastic Beanstalk	Machine Learning	SageMaker
AppSync	DMS	Elastic Container Service	Macie	Security Hub
Application Auto Scaling	Data Lifecycle Manager	Elastic Transcoder	MediaConvert	Service Catalog
Application Discovery Service	Data Pipeline	ElasticLoadBalancing	OpsWorks	Step Functions
Auto Scaling	DataSync	Glue	RAM	Storage Gateway
Batch	DeepLens	Greengrass	RDS	Transfer
CloudFormation	Directory Service	GuardDuty	Redshift	Trusted Advisor
CloudHSM	DynamoDB	Inspector	Rekognition	VPC
CloudTrail	EC2	IoT	S3	WorkLink
CloudWatch Events	EC2 - Fleet	Kinesis		

Select your use case

Lambda
Allows Lambda functions to call AWS services on your behalf.

⏸   * Required   ────────●─────────────────────   Cancel   -2:06
                                                                                               Next Permissions ⤢   🔊

AWS Management Console

AWS services

Find Services

You can enter names, keywords or acronyms.

Q *Example: Relational Database Service, database, RDS*

▼ **Recently visited services**

🛡 **IAM**   📦 **S3**

🌀 **AWS DeepLens**   🔲 **Lambda**

◈ **IoT Core**

▼ **All services**

🔲 **Compute**   🌐 **Machine Learning**
  EC2   Amazon SageMaker
  Lightsail ↗   Amazon Comprehend
  ECR   AWS DeepLens
  ECS   Amazon Lex
  EKS   Machine Learning

Access resources on the go

📱 Access the Management Console using the AWS Console Mobile App. Learn more ↗

Explore AWS

AWS Marketplace

Find, buy, and deploy popular software products that run on AWS. Learn more ↗

Amazon RDS

Set up, operate, and scale your relational database in the cloud. Learn more ↗

Run Serverless Containers with AWS Fargate

AWS Fargate runs and scales your containers without

AWS Management Console

AWS services

Find Services

You can enter names, keywords or acronyms.

🔍 *Example: Relational Database Service, database, RDS*

▼ **Recently visited services**

🛡 IAM   📦 S3

🌐 AWS DeepLens   ▢ Lambda

🔷 IoT Core

▼ **All services**

▢ **Compute**   ⚙ **Machine Learning**
　EC2   　Amazon SageMaker
　Lightsail [↗]   　Amazon Comprehend
　ECR   　AWS DeepLens
　ECS   　Amazon Lex
　EKS   　Machine Learning

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Run Serverless Containers with AWS Fargate

AWS Fargate runs and scales your containers without

aws   Services ▾   Resource Groups ▾   ⚡

🔔   Global ▾   Support ▾

Amazon S3

Prevent S3 objects from being deleted for a predefined retention period with S3 Object Lock. Learn more »   Documentation

| Buckets

Batch operations

Public access
settings for this
account

Feature spotlight ❷

S3 buckets   ◻ Discover the console

| 🔍 Search for buckets | All access types ▾ |

+ Create bucket   Edit public access settings   Empty   Delete   **97** Buckets   **6** Regions

☐	Bucket name ▾	Access ❶ ↻	Region ▾	Date created ▾
☐	🪣 645849832089-rek-backfill-inventory		EU (Ireland)	Jan 9, 2019 1:24:05 PM GMT-0800
☐	🪣 aws-mas-deploy-eu-west-1		EU (Ireland)	Nov 5, 2018 1:43:25 PM GMT-0800
☐	🪣 aws-mas-deploy-us-east-1		US East (N. Virginia)	Nov 5, 2018 9:09:34 PM GMT-0800
☐	🪣 aws-mas-deploy-us-east-2		US East (Ohio)	Nov 5, 2018 1:42:04 PM GMT-0800
☐	🪣 aws-mas-deploy-us-west-2		US West (Oregon)	Nov 5, 2018 1:41:11 PM GMT-0800
☐	🪣 aws-rla		US East (N. Virginia)	Nov 16, 2018 6:20:54 AM GMT-0800
☐	🪣 aws-workshops-eu-west-1		EU (Ireland)	Nov 12, 2018 1:58:26 AM GMT-0800
☐	🪣 aws-workshops-us-east-1		US East (N. Virginia)	Nov 11, 2018 4:45:51 PM GMT-0800
☐	🪣 aws-workshops-us-east-2		US East (Ohio)	Nov 12, 2018 1:57:22 AM GMT-0800
☐	🪣 aws-workshops-us-west-2		US West (Oregon)	Nov 12, 2018 1:57:42 AM GMT-0800
☐	🪣 awsrobomakerhelloworld-154358294108-bundlesbucket-eyppadk02cwm		US East (N. Virginia)	Nov 30, 2018 4:26:08 AM GMT-0800
☐	🪣 bplan-xray		EU (Ireland)	Nov 21, 2018 4:54:19 AM GMT-0800
☐	🪣 cf-templates-v6rgs7khegun-eu-west-1		EU (Ireland)	Jan 7, 2019 5:13:47 PM GMT-0800
☐	🪣 cf-templates-v6rgs7khegun-us-east-1		US East (N. Virginia)	Jan 2, 2019 3:19:25 PM GMT-0800
☐	🪣 dax-lab		US East (N. Virginia)	Jul 25, 2017 12:08:28 AM GMT-0700
☐	🪣 ddbc		US West (Oregon)	Nov 4, 2016 4:39:33 AM GMT-0700

S3 buckets

Discover the

Create bucket   ✕

① Name and region   ② Configure options   ③ Set permissions   ④ Review

All access types

Search for bucke

+ Create bucket

Name and region

Bucket name ⓘ

97 Buckets   6 Regions

Bucket name ▾

Enter DNS-compliant bucket name

Date created ▾

6458496032

Jan 9, 2019 1:24:05 PM GMT-0

aws-mas-c

Region

Nov 5, 2018 1:43:25 PM GMT-0

aws-mas-c

US East (N. Virginia)   ⌄

Nov 5, 2018 9:09:34 PM GMT-0

aws-mas-c

Nov 5, 2018 1:42:04 PM GMT-0

aws-mas-c

Nov 5, 2018 1:41:11 PM GMT-0

Copy settings from an existing bucket

aws-ria

Nov 16, 2018 6:20:54 AM GMT-

aws-worka

Select bucket (optional)97 Buckets   ⌄

Nov 12, 2018 1:58:26 AM GMT-

aws-worka

Nov 11, 2018 4:45:51 PM GMT-

aws-worka

Nov 12, 2018 1:57:22 AM GMT-

aws-worka

Nov 12, 2018 1:57:42 AM GMT-

awsrobom

Nov 30, 2018 4:26:08 AM GMT-

bplan-xray

Nov 21, 2018 4:54:19 PM GMT-

cf-templat

Create   Cancel   Next

Jan 7, 2019 5:13:47 PM GMT-

cf-templat

Jan 2, 2019 3:19:25 PM GMT-0

dax-lab   Objects can be public   US East (N. Virginia)   Jul 25, 2017 12:08:26 AM GMT-

Create bucket

Name and region

Bucket name

Enter DNS-compliant bucket name

Region

US East (N. Virginia)

Copy settings from an existing bucket

Select bucket (optional) 97 Buckets

Create   Cancel   Next

S3 buckets

Search for bucket   All access types

+ Create bucket   **97** Buckets

Bucket name ▾   Date created ▾

☐ 🪣 645849832   Jan 9, 2019 1:24

☐ 🪣 aws-mas-c   Nov 5, 2018 1:4

☐ 🪣 aws-mas-c   Nov 5, 2018 9:0

☐ 🪣 aws-mas-c   Nov 5, 2018 1:4

☐ 🪣 aws-mas-c   Nov 5, 2018 1:4

☐ 🪣 aws-ria   Nov 16, 2018 6:2

☐ 🪣 aws-works   Nov 12, 2018 1:

☐ 🪣 aws-works   Nov 11, 2018 4:

☐ 🪣 aws-works   Nov 12, 2018 1:

☐ 🪣 aws-works   Nov 12, 2018 1:

☐ 🪣 awsrobom   Nov 30, 2018 4:

☐ 🪣 bplan-xray   Nov 21, 2018 4:

☐ 🪣 cf-template   Jan 7, 2019 5:1

☐ 🪣 cf-template   Jan 2, 2019 3:1

Create bucket

Name and region

Bucket name ⓘ

kashif-worker-

Bucket name must not end with dash or period

Region

US East (N. Virginia)

Copy settings from an existing bucket

Select bucket (optional)97 Buckets

Create   Cancel   Next

S3 buckets

Search for bucke

All access types

+ Create bucket

97 Buckets

☐ Bucket name ▾   Date created ▾

☐ 🛡 645849832   Jan 9, 2019 1:2

☐ 🛡 aws-mas-c   Nov 5, 2018 1:4

☐ 🛡 aws-mas-c   Nov 5, 2018 9:0

☐ 🛡 aws-mas-c   Nov 5, 2018 1:4

☐ 🛡 aws-mas-c   Nov 5, 2018 1:4

☐ 🛡 aws-ria   Nov 16, 2018 6:2

☐ 🛡 aws-works   Nov 12, 2018 1:

☐ 🛡 aws-works   Nov 11, 2018 4:

☐ 🛡 aws-works   Nov 12, 2018 1:

☐ 🛡 aws-works   Nov 12, 2018 1:

☐ 🛡 awsrobom   Nov 30, 2018 4:

☐ 🛡 bplan-xray   Nov 21, 2018 4:

☐ 🛡 cf-template   Jan 7, 2019 5:1

☐ 🛡 cf-template   Jan 2, 2019 3:1

S3 buckets

Create bucket

97 Buckets

All access types

Create bucket

	Bucket name	Date created
☐	645849832	Jan 9, 2019 1:2
☐	aws-mas-c	Nov 5, 2018 1:4
☐	aws-mas-c	Nov 5, 2018 9:0
☐	aws-mas-c	Nov 5, 2018 1:4
☐	aws-mas-c	Nov 5, 2018 1:4
☐	aws-ria	Nov 16, 2018 6:2
☐	aws-works	Nov 12, 2018 1:
☐	aws-works	Nov 11, 2018 4:
☐	aws-works	Nov 12, 2018 1:
☐	aws-works	Nov 12, 2018 1:
☐	awsroboma	Nov 30, 2018 4:
☐	bplan-xray	Nov 21, 2018 4:
☐	cf-template	Jan 7, 2019 5:1
☐	cf-template	Jan 2, 2019 3:1

Create bucket

① Name and region　　② Configure options　　③ Set permissions　　④ Review

Name and region

Bucket name ⓘ

kashif-worker-safety|

Region

US East (N. Virginia)

Copy settings from an existing bucket

Select bucket (optional)|97 Buckets

Create　　　　　　　　　　　　Cancel　　Next

Create bucket

(1) Name and region   (2) Configure options   (3) Set permissions   (4) Review

Name and region

Bucket name ⓘ

kashif-worker-safety|

Region

US East (N. Virginia)   ⌄

Copy settings from an existing bucket

Select bucket (optional)97 Buckets   ⌄

Create   Cancel   Next

97 Buckets

	Bucket name ▾	Date created ▾
☐	645849632...	Jan 9, 2019 1:2...
☐	aws-mas-c...	Nov 5, 2018 1:4...
☐	aws-mas-c...	Nov 5, 2018 9:0...
☐	aws-mas-c...	Nov 5, 2018 1:4...
☐	aws-mas-c...	Nov 5, 2018 1:4...
☐	aws-ria	Nov 16, 2018 6:...
☐	aws-works...	Nov 12, 2018 1:...
☐	aws-works...	Nov 11, 2018 4:...
☐	aws-works...	Nov 12, 2018 1:...
☐	aws-works...	Nov 12, 2018 1:...
☐	awsroboma...	Nov 30, 2018 4:...
☐	bplan-xray...	Nov 21, 2018 4:...
☐	cf-template...	Jan 7, 2019 5:1...
☐	cf-template...	Jan 2, 2019 3:1...

Search for buck...

All access types

+ Create bucket

Create bucket   ✕

① Name and region   ② Configure options   ③ Set permissions   ④ Review

Properties

Versioning
☐ Keep all versions of an object in the same bucket. Learn more ⧉

Server access logging
☐ Log requests for access to your bucket. Learn more ⧉

Tags
You can use tags to track project costs. Learn more ⧉

| Key | Value |

＋ Add another

Object-level logging
☐ Record object-level API activity using AWS CloudTrail for an additional cost. See CloudTrail pricing ⧉ or learn more ⧉

Default encryption
☐ Automatically encrypt objects when they are stored in S3. Learn more ⧉

▸ Advanced settings

Management

Previous   Next

S3 buckets

Search for buck...

All access types

+ Create bucket

97 Buckets

	Bucket name ▼		Date created ▼
☐	645849832		Jan 9, 2019 1:2
☐	aws-mas-c		Nov 5, 2018 1:4
☐	aws-mas-c		Nov 5, 2018 9:0
☐	aws-mas-c		Nov 5, 2018 1:4
☐	aws-mas-c		Nov 5, 2018 1:4
☐	aws-ria		Nov 16, 2018 6:2
☐	aws-works		Nov 12, 2018 1:
☐	aws-works		Nov 11, 2018 4:
☐	aws-works		Nov 12, 2018 1:
☐	aws-works		Nov 12, 2018 1:
☐	awsrobom		Nov 30, 2018 4:
☐	bplan-xray		Nov 21, 2018 4:
☐	cf-template		Jan 7, 2019 5:1:
☐	cf-template		Jan 2, 2019 3:1t

Create bucket ✕

① ✓ Name and region   ② ✓ Configure options   ③ Set permissions   ④ Review

Note: You can grant access to specific users after you create the bucket.

Public access settings for this bucket

Use the Amazon S3 block public access settings to enforce that buckets don't allow public access to data. You can also configure the Amazon S3 block public access settings at the account level. Learn more ⧉

Manage public access control lists (ACLs) for this bucket ⓘ

☐ Block new public ACLs and uploading public objects (Recommended) ⓘ
☐ Remove public access granted through public ACLs (Recommended) ⓘ

Manage public bucket policies for this bucket ⓘ

☐ Block new public bucket policies (Recommended) ⓘ
☒ Block public and cross-account access if bucket has public policies (Recommended) ⓘ

Manage system permissions

Do not grant Amazon S3 Log Delivery group write access to this bucket   ⌄

Previous   Next

☐ 645849832

☐ aws-mas-c

☐ aws-mas-c

☐ aws-mas-c

☐ aws-mas-c

☐ aws-ria

☐ aws-works

☐ aws-works

☐ aws-works

☐ aws-works

☐ awsrobom

☐ bplan-xray

☐ cf-templat

☐ cf-templat

Jan 9, 2019 1:24

Nov 5, 2018 1:4

Nov 5, 2018 9:0

Nov 5, 2018 1:4

Nov 5, 2018 1:4

Nov 16, 2018 6:

Nov 12, 2018 1:

Nov 11, 2018 4:

Nov 12, 2018 1:

Nov 12, 2018 1:

Nov 30, 2018 4:

Nov 21, 2018 4:

Jan 7, 2019 5:12

Jan 2, 2019 3:1

Options

Edit

Versioning	Disabled
Server access logging	Disabled
Tagging	0 Tags
Object-level logging	Disabled
Default encryption	None
CloudWatch request metrics	Disabled
Object lock	Disabled

Permissions

Edit

Block new public ACLs and uploading public objects	False
Remove public access granted through public ACLs	False
Block new public bucket policies	False
Block public and cross-account access if bucket has public policies	False

Previous

Create bucket

-0:21

S3 buckets

Create bucket

✓ Name and region   ✓ Configure options   ③ Set permissions   ④ Review

Note: You can grant access to specific users after you create the bucket.

Public access settings for this bucket

Use the Amazon S3 block public access settings to enforce that buckets don't allow public access to data. You can also configure the Amazon S3 block public access settings at the account level. Learn more

Manage public access control lists (ACLs) for this bucket

☐ Block new public ACLs and uploading public objects *(Recommended)*
☐ Remove public access granted through public ACLs *(Recommended)*

Manage public bucket policies for this bucket

☐ Block new public bucket policies *(Recommended)*
☑ Block public and cross-account access if bucket has public policies *(Recommended)*

Manage system permissions

Do not grant Amazon S3 Log Delivery group write access to this bucket

Previous   Next

97 buckets

+ Create bucket

☐ Bucket name   Date created

☐ 6458490310...   Jan 9, 2019 1:24
☐ aws-mss-c...   Nov 5, 2018 1:42
☐ aws-mss-c...   Nov 5, 2018 6:04
☐ aws-mss-c...   Nov 5, 2018 1:42
☐ aws-mss-c...   Nov 5, 2018 1:4
☐ aws-rfa   Nov 18, 2018 8:2
☐ aws-works...   Nov 12, 2018 5
☐ aws-works...   Nov 11, 2018 4
☐ aws-works...   Nov 12, 2018 5
☐ aws-works...   Nov 12, 2018 1
☐ awsisbon...   Nov 30, 2018 4:2
☐ bplan-xray...   Nov 21, 2018 4
☐ cf-templat...   Jan 7, 2019 5:13
☐ cf-templat...   Jan 2, 2019 3:10

-0:38

aws   Services ⌄   Resource Groups ⌄   ✦   🔔   ▓▓▓▓▓▓▓▓   N. Virginia ⌄   Support ⌄

Author from scratch   Info

Name

| myFunctionName | I |

worker-safety

Delete

ria

worker-safety-inline

bolan-video-analysis

MediaCoreAnalyzer-

...rted AWS Lambda runtime or provide your own runtime as part of the function deployment package or Lambda layer after

...of your function. Note that new roles may not be available for a few minutes after creation. **Learn more** about Lambda execution roles.

| Choose an existing role | ⌄ |

Existing role

You can use an existing role with this function. Lambda must be able to assume this role, and the role must have Amazon CloudWatch Logs permissions.

| | ⌄ |

-2:33   ⛶   🔊

Author from scratch Info

Name

kashif-worker-safety-cloud

Runtime

You can select a supported AWS Lambda runtime or provide your own runtime as part of the function deployment package or Lambda layer after creating the function.

Python 3.7   ▼

Role

Defines the permissions of your function. Note that new roles may not be available for a few minutes after creation. **Learn more** about Lambda execution roles.

Choose an existing role   ▼

Existing role

You can use an existing role with this function. Lambda must be able to assume this role, and the role must have Amazon CloudWatch Logs permissions.

                                                                 ▼

Cancel   Create function

kashif-worker-safety-cloud

| Throttle | Qualifiers ▾ | Actions ▾ | Select a test event... ▾ | Test | Save |

1:1   Python   Spaces: 4   ⚙

Environment variables

You can define environment variables as key-value pairs that are accessible from your function code. These are useful to store configuration settings without the need to change function code. **Learn more.**

| Key | Value | Remove |

▶ Encryption configuration

Tags

You can use tags to group and filter your functions. A tag consists of a case-sensitive key-value pair. **Learn more.**

| Key | Value | Remove |

kashif-worker-safety-cloud

| Throttle | Qualifiers ▼ | Actions ▼ | Select a test event... ▼ | Test | Save |

1:1   Python   Spaces: 4 ⚙

Environment variables

You can define environment variables as key-value pairs that are accessible from your function code. These are useful to store configuration settings without the need to change function code. **Learn more.**

| iot_topic | *Value* | Remove |
| *Key* | *Value* | Remove |

▶ **Encryption configuration**

Tags

You can use tags to group and filter your functions. A tag consists of a case-sensitive key-value pair. **Learn more.**

| *Key* | *Value* | Remove |

aws   Services ▾   Resource Groups ▾   ⚑   🔔   N. Virginia ▾   Support ▾

Lambda ❭ Functions

Functions (96)

     ↻   Actions ▾   **Create function**

🔍 Filter by tags and attributes or search by keyword   ?   ❮   **1**   2   3   4   5   6   7   …   10   ❯   ⚙

	Function name ▾	Description	Runtime ▾	Code size ▾	Last modified ▾
○	kashif-worker-safety-cloud		Python 3.7	7.9 MB	8 minutes ago
○	deeplens_admin_model_downloader	This is a DeepLens admin function required for proper functioning of DeepLens Service. DO NOT DELETE	Python 2.7	5.6 MB	2 hours ago
○	dr-worker-safety-deeplens	Deploy this lambda to a Greengrass core where it will send a hello world message to a topic	Python 2.7	27.1 kB	2 hours ago
○	dr-worker-safety-cloud		Python 3.7	7.9 MB	2 hours ago
○	worker-safety-cloud		Python 3.7	7.9 MB	6 hours ago
○	modsol-start-job-scheduler		Python 3.7	613 bytes	20 days ago
○	modsol-start-get-moderation		Python 3.7	2.1 kB	20 days ago
○	modsol-configuration		Python 3.7	2.25B	2? days ago

⏸   ⬤━━━━━━   ⛶   🔊

Lambda > Functions > Create function

Create function

Author from scratch ○	Blueprints ●	AWS Serverless Application Repository ○
Start with a simple "hello world" example.	Choose a preconfigured template as a starting point for your Lambda function.	Find and deploy serverless applications published by AWS, AWS partners, and other developers.

Blueprints Info

Export

🔍 *Filter by tags and attributes or search by keyword*   ⟨ 1 2 3 4 5 6 7 ... 11 ⟩

kinesis-firehose-syslog-to-json ○

An Amazon Kinesis Firehose stream processor that converts input records from RFC3164 Syslog format to JSON.

logicmonitor-send-cloudwatch-events ○

Creates LogicMonitor OpsNotes for CloudWatch Events, thereby enabling correlation between events and performance data.

splunk-elb-application-access-logs-processor ○

Stream Application ELB access logs from S3 to Splunk's HTTP event collector

aws

Lambda > Functions > Create function

Create function

Author from scratch	○	Blueprints	●	AWS Serverless Application Repository	○
Start with a simple "hello world" example.		Choose a preconfigured template as a starting point for your Lambda function.		Find and deploy serverless applications published by AWS, AWS partners, and other developers.	

Blueprints info

Export

🔍 Filter by tags and attributes or search by keyword   [?]

< 1 2 3 4 5 6 7 ... 11 >

Blueprint attributes

Blueprint name

Keyword

Runtime

kines...	...monitor-send-cloudwatch-eve	○	splunk-elb-application-access-logs -processor	○
An Am... conve... format to JSON.	...LogicMonitor OpsNotes for CloudWatch Events, thereby enabling correlation between events and performance data.		Stream Application ELB access logs from S3 to Splunk's HTTP event collector	

aws   Services ▾   Resource Groups ▾   ✦   🔔   N. Virginia ▾   Support ▾

Basic information   Info

Name

| kashif-worker-safety-deeplens |

Role

Defines the permissions of your function. Note that new roles may not be available for a few minutes after creation. **Learn more** about Lambda execution roles.

| Choose an existing role   ▼ |

Existing role

You can use an existing role with this function. Lambda must be able to assume this role, and the role must have Amazon CloudWatch Logs permissions.

| ▼ |

| 🔍 deep   ✕ |

AWS**Deep**LensLambdaRole

DeepLensInferenceLambdaRole

DeepLensSentiment

dr**Deep**LensInferenceLambdaRole

Runtime
Python 2.7

aws   Services ▾   Resource Groups ▾   ⚲   🔔 ▭▭▭▭▭ N. Virginia ▾   Support ▾

kashif-worker-safety-deeplens   [Throttle]   [Qualifiers ▾]   [Actions ▾]   [Select a test event.. ▾]   [Test]   [Save]

CloudFront

CloudWatch Events

CloudWatch Logs

CodeCommit

Cognito Sync Trigger

DynamoDB

Kinesis

🔑 AWS Key Management Service

λ AWS Lambda

☁ AWS XRay

☁ Amazon CloudWatch

☁ Amazon CloudWatch Events

Function code Info

Code entry type	Runtime	Handler Info
Edit code inline ▾	Python 2.7 ▾	greengrassHelloWorld.function_hand

```python
#***********************************************************
#                                                          *
# Copyright 2018 Amazon.com, Inc. or its affiliates.       *
# All Rights Reserved.                                     *
#                                                          *
#***********************************************************
""" A sample lambda for object detection"""
from threading import Thread, Event
import os
import json
import numpy as np
import awscam
import cv2
import greengrasssdk
import time
import base64
import urllib
import zipfile
import sys
import datetime

#boto3 is not installed on device by default.


boto_dir = '/tmp/boto_dir'
if not os.path.exists(boto_dir):
    os.mkdir(boto_dir)
urllib.urlretrieve("https://s3.amazonaws.com/dear-demo/boto_3_dist.zip", "/tmp/boto_3_dist.zip")
with zipfile.ZipFile("/tmp/boto_3_dist.zip", "r") as zip_ref:
```

aws   Services ▾   Resource Groups ▾   🔖   🔔   N. Virginia ▾   Support ▾

kashif-worker-safety-deeplens   [Throttle]   [Qualifiers ▾]   [Actions ▾]   [Select a test event... ▾]   [Test]   [Save]

Code entry type   Runtime   Handler Info

[Edit code inline   ▾]   [Python 2.7   ▾]   [greengrassHelloWorld.function_hand]

File   Edit   Find   View   Goto   Tools   Window   ⤢   ⚙

▾ 📁 kashif-worker-safety-deeplen | greengrassHello × ⊕

   ▸ 📁 greengrass_common

   ▸ 📁 greengrass_ipc_python_s

   ▸ 📁 greengrasssdk

   ▸ 📁 license

   📄 greengrassHelloWorld.py

```
 1  #
 2  # Copyright 2010-2017 Amazon.com, Inc. or its affiliates. All Rights Reserved.
 3  #
 4
 5  # greengrassHelloWorld.py
 6  # Demonstrates a simple publish to a topic using Greengrass core sdk
 7  # This lambda function will retrieve underlying platform information and send
 8  # a hello world message along with the platform information to the topic 'hello/world'
 9  # The function will sleep for five seconds, then repeat.  Since the function is
10  # long-lived it will run forever when deployed to a Greengrass core.  The handler
11  # will NOT be invoked in our example since the we are executing on infinite loop.
12
13  import greengrasssdk
14  import platform
15  from threading import Timer
16  import time
17
18
19  # Creating a greengrass core sdk client
20  client = greengrasssdk.client('iot-data')
21
22  # Retrieving platform information to send from Greengrass Core
```

aws   Services ⌄   Resource Groups ⌄   ⚡   🔔 ▦▦▦▦▦▦   N. Virginia ⌄   Support ⌄

☰   kashif-worker-safety-deeplens   [Throttle]   [Qualifiers ⌄]   [Actions ⌄]   [Select a test event.. ⌄]   [Test]   [Save]   ⓘ

Code entry type   Runtime   Handler Info

[Edit code inline   ⌄]   [Python 2.7   ⌄]   [greengrassHelloWorld.function_hand]

```
⌃   File  Edit  Find  View  Goto  Tools  Window                                            ⤢  ⚙

  ▾ 📁 kashif-worker-safety-d◉◎◉       🗅   *greengrassHell◉ ◉   ⊕
    ▸ 📁 greengrass_common           ⋯  os.mkdir(boto_dir)
    ▸ 📁 greengrass_ipc_python_s     27  urllib.urlretrieve("https://s3.amazonaws.com/dear-demo/boto_3_dist.zip", "/tmp/boto_3_dist.zip")
    ▸ 📁 greengrasssdk               28  with zipfile.ZipFile("/tmp/boto_3_dist.zip", "r") as zip_ref:
    ▸ 📁 license                     29      zip_ref.extractall(boto_dir)
    ◉▸ greengrassHelloWorld.py       30  sys.path.append(boto_dir)
                                     31
                                     32  import boto3
                                     33
                                     34  bucket_name = "kashif-worker-s|
                                     35
                                     36  # Create an IoT client for sending to messages to the cloud.
                                     37  client = greengrasssdk.client('iot-data')
                                     38  iot_topic = '$aws/things/{}/infer'.format(os.environ['AWS_IOT_THING_NAME'])
                                     39
                                     40  class LocalDisplay(Thread):
                                     41      """ Class for facilitating the local display of inference results
                                     42          (as images). The class is designed to run on its own thread. In
                                     43          particular the class dumps the inference results into a FIFO
                                     44          located in the tmp directory (which lambda has access to). The
                                     45          results can be rendered using mplayer by typing:
                                     46          mplayer -demuxer lavf -lavfdopts format=mjpeg:probesize=32 /tmp/results.mjpeg
                                     47      """
                                     48      def __init__(self, resolution):
```

kashif-worker-safety-deeplens   [Throttle]   [Qualifiers ▾]   [Actions ▾]   Select a test event.. ▾   [Test]   Save

Function code Info

Code entry type   **Runtime**   **Handler** Info

| Edit code inline ▾ | Python 2.7 ▾ | greengrassHelloWorld.function_hand |

⌃   File   Edit   Find   View   Goto   Tools   Window   ⤢ ⚙

▼ 📁 kashif-worker-safety-d…pl…   🗋   greengrassHello ×   ⊕

  ▶ 📁 greengrass_common   26   os.…th.(…to_…r)
  ▶ 📁 greengrass_ipc_python_s   27   urllib.urlretrieve("https://s3.amazonaws.com/dear-demo/boto_3_dist.zip", "/tmp/boto_3_dist.zip")
  ▶ 📁 greengrasssdk   28   with zipfile.ZipFile("/tmp/boto_3_dist.zip", "r") as zip_ref:
  ▶ 📁 license   29   zip_ref.extractall(boto_dir)
  🐍 greengrassHelloWorld.py   30   sys.path.append(boto_dir)
                                   31
                                   32   import boto3
                                   33
                                   34   bucket_name = "kashif-worker-safety"
                                   35
                                   36   # Create an IoT client for sending to messages to the cloud.
                                   37   client = greengrasssdk.client('iot-data')
                                   38   iot_topic = '$aws/things/{}/infer'.format(os.environ['AWS_IOT_THING_NAME'])
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                                   44   located in the tmp directory (which lambda has access to). The

Services ▾ | Resource Groups ▾ | ✦

🔔 | ▨▨▨▨▨▨▨ | N. Virginia ▾ | Support ▾

DeepLens ＞ Projects

Share your feedback

Projects (13)

Deploy to device | Actions ▾ | **Create new project**

🔍 Search projects

‹ **1** 2 › ⚙

Name ▾	Description ▾	Version ▾	Creation time ▲	Last updated ▾
○ dr-worker-safety			2/27/2019, 11:58:49 AM	2/27/2019, 11:58:49 AM
○ kashii-worker-safety			2/27/2019, 7:51:15 AM	2/27/2019, 7:51:15 AM
○ TTTEst-Object-detection	Detect 20 popular objects		2/26/2019, 4:56:21 PM	2/26/2019, 4:56:21 PM
○ dod-worker-safety			2/3/2019, 1:18:45 PM	2/3/2019, 1:18:45 PM
○ Worker-Safety-DryRun	Detect 20 popular objects	3	11/13/2018, 12:13:26 PM	11/13/2018, 1:45:15 PM
○ worker-safety		7	11/11/2018, 12:27:05 AM	11/11/2018, 5:30:37 PM
○ Object-detection-project	Detect 20 popular objects		5/14/2018, 4:55:17 PM	5/14/2018, 4:55:17 PM
○ Face-Detection-Security		7	5/11/2018, 5:59:52 AM	5/14/2018, 2:55:37 AM
○ Object-detection333	Detect 20 popular objects		4/13/2018, 1:00:52 PM	4/13/2018, 1:00:52 PM
○ Face-detection22	Detect all faces in your surroundings		4/5/2018, 3:36:38 PM	4/5/2018, 3:36:38 PM

DeepLens > Projects > Create project

Step 1
Choose project type

Choose project type

Step 2
Specify project details

Project type

Choose an option

⦿ **Use a project template**
Test a preconfigured project to deploy a solution quickly, or customize the templates for your own use.

◯ **Create a new blank project**
Choose models and functions or create new logic for a custom use case.

Project templates

◯

◯

aws   **Services** ⌄   **Resource Groups** ⌄   🔖   🔔   ▓▓▓▓▓▓▓▓   N. Virginia ⌄   Support ⌄

DeepLens > Projects > Create project

Step 1
Choose project type

Choose project type

Step 2
Specify project details

Project type

Choose an option

○ **Use a project template**
Test a preconfigured project to deploy a solution quickly, or customize the templates for your own use.

● **Create a new blank project**
Choose models and functions or create new logic for a custom use case.

Cancel   **Next**

DeepLens > Projects > Create project

Share your feedback

Step 1
Choose project type

Step 2
Specify project details

Choose project type

Project type

Choose an option

○ **Use a project template**
Test a preconfigured project to deploy a solution quickly, or customize the templates for your own use.

◉ **Create a new blank project**
Choose models and functions or create new logic for a custom use case.

Cancel   **Next**

DeepLens 〉 Projects 〉 Create project

Share your feedback

Step 1
Choose project type

Specify project details

Step 2
Specify project details

Project information

Project name

kashif-worker-|

The project name can contain alphanumeric characters and hyphens. It must be no longer than 100 characters.

Description - *Optional*

Sample description

Project content

A model contains the logic for your project. Lambda functions run instances of the model. Associate a model and at least one Lambda function with your project.

Add model | **Add function**

Step 1
Choose project type

Step 2
Specify project details

Specify project details

Project information

Project name

kashif-worker-safety

The project name can contain alphanumeric characters and hyphens. It must be no longer than 100 characters.

Description - *Optional*

Sample description

Project content

A model contains the logic for your project. Lambda functions run instances of the model. Associate a model and at least one Lambda function with your project.

Add model | **Add function**

Cancel   Previous   **Create**

aws   Services   Resource Groups   ⚑   🔔   N. Virginia ▾   Support ▾

Add model   ✕

🔍 Search models   ‹ 1 ›   ⚙

Name ▼	Model framework ▼	Description ▼	Creation time ▲
○ deeplens-squeezenet	MXNet	Squeezenet model	2/4/2018, 7:12:12 PM
○ deeplens-hotdog-no-hotdog	MXNet	Model used to identify hot dog vs no hot dog	2/4/2018, 7:12:12 PM
○ deeplens-artistic-style-transfer	MXNet	Neural art with pixel augmentation	2/4/2018, 7:12:12 PM
○ deeplens-action-recognition	MXNet	SqueezeNet model trained on ImageNet data	2/4/2018, 7:12:12 PM
○ deeplens-cat-and-dog-recognition	MXNet	ResNet-18 binary classifier to recognize cats and dogs	2/4/2018, 7:12:12 PM
○ deeplens-object-detection	MXNet	SSD architecture with a ResNet-50 feature extractor	2/4/2018, 7:12:12 PM
○ deeplens-face-	MXNet	SSD architecture with a ResNet-50	2/4/2018,

Import model   Cancel   Add model

aws   Services ∨   Resource Groups ∨   ⋆   🔔   N. Virginia ∨   Support ∨

Step 1
Choose project type

Specify project details

Step 2
Specify project details

Project information

Add model   ✕

| 🔍 object | | ✕ | ‹ 1 › | ⚙ |

Name ▼	Model framework ▼	Description ▼	Creation time ▲
⦿ deeplens-object-detection	MXNet	SSD architecture with a ResNet-50 feature extractor	2/4/2018, 7:12:12 PM

import model   Cancel   **Add model**

---

one Lambda function with your project.

Add model   Add function

Cancel   Previous   Create

aws

Services ▾   Resource Groups ▾   ⬥

N. Virginia ▾   Support ▾

Step 1
Choose project type

Step 2
Specify project details

Specify project details

Project information

Project name

kashif-worker-safety

The project name can contain alphanumeric characters and hyphens. It must be no longer than 100 characters.

Description - *Optional*

Sample description

Project content

A model contains the logic for your project. Lambda functions run instances of the model. Associate a model and at least one Lambda function with your project.

▶ Model   deeplens-object-detection   [Remove]

Add model | Add function

aws   Services   Resource Groups   *   N. Virginia   Support

Add function   ✕

🔍 [   ]   ‹ 1 2 3 4 5 ›   ⚙

Name ▼	Description ▼	Version ▼
⚪ deeplens-cat-and-dog-recognition	Lambda that publishes labels and probabilities to MQQT	1
⚫ kashif-worker-safety-deeplens	Detect person and push frames to S3	1
⚪ deeplens-object-detection	Lambda that outputs JPEG bits to a FIFO file on the device and publishes labels and probabilities to MQTT	1
⚪ deep-lens-dear-demo	V1	1
⚪ worker-safety	Working Version	1
⚪ deeplens-artistic-style-transfer	Outputs the JPEG bits to a FIFO file on AWS DeepLens	1
⚪ dr-worker-safety-deeplens		1

Create function in Lambda ⧉   Cancel   **Add function**

aws   Services   Resource Groups   ✦   🔔   N. Virginia   Support

Add function   ✕

🔍 [   ]   ‹ **1** 2 3 4 5 ›   ⚙

Name ▼	Description ▼	Version ▼
○ deeplens-cat-and-dog-recognition	Lambda that publishes labels and probabilities to MQQT	1
◉ kashif-worker-safety-deeplens	Detect person and push frames to S3	1
○ deeplens-object-detection	Lambda that outputs JPEG bits to a FIFO file on the device and publishes labels and probabilities to MQTT	1
○ deep-lens-dear-demo	V1	1
○ worker-safety	Working Version	1
○ deeplens-artistic-style-transfer	Outputs the JPEG bits to a FIFO file on AWS DeepLens	1
○ dr-worker-safety-deeplens		1

Create function in Lambda 🔗   Cancel   **Add function**

Feedback   English (US)

aws   Services ▾   Resource Groups ▾   ⇪

Add function   ✕

🔍 [   ]   ‹ **1** 2 3 4 5 ›   ⚙

	Name ▼	Description ▼	Version ▼
○	deeplens-cat-and-dog-recognition	Lambda that publishes labels and probabilities to MQQT	1
⦿	kashif-worker-safety-deeplens	Detect person and push frames to S3	1
○	deeplens-object-detection	Lambda that outputs JPEG bits to a FIFO file on the device and publishes labels and probabilities to MQTT	1
○	deep-lens-dear-demo	V1	1
○	worker-safety	Working Version	1
○	deeplens-artistic-style-transfer	Outputs the JPEG bits to a FIFO file on AWS DeepLens	1
○	dr-worker-safety-deeplens		1

Create function in Lambda 🔗   Cancel   **Add function**

Feedback   English (US)

Project name

kashif-worker-safety

The project name can contain alphanumeric characters and hyphens. It must be no longer than 100 characters.

Description - *Optional*

Sample description

Project content

A model contains the logic for your project. Lambda functions run instances of the model. Associate a model and at least one Lambda function with your project.

| ▶ Model | deeplens-object-detection | Remove |
| ▶ Function | kashif-worker-safety-deeplens | Remove |

Add model | Add function

Cancel   Previous   Create

aws   **Services** ⌄   **Resource Groups** ⌄   ↖

⌂   N. Virginia ⌄   Support ⌄

AWS DeepLens   ✕

⊘ **Project kashif-worker-safety was created successfully**   ✕
Next, choose the project and click on Deploy to device to deploy the project to the device.

▼ Resources

   Projects

   Devices

   Models

▶ Helpful links

DeepLens > Projects

Share your feedback

Projects (10)   [Deploy to device]   [Actions ▼]   [**Create new project**]

🔍 Search projects   ‹   1   ›   ⚙

Name ▼	Description ▼	Version ▼	Creation time ▲	Last updated ▼

DeepLens > Projects > kashif-worker-safety > Deploy project

Step 1
Target device

Step 2
Review and deploy

Target device

Choose the device you want to deploy your project to.

Devices (1)

🔍 Search devices   ‹ 1 ›   ⚙

	Name ▾	Project ▾	Registration status ▾	Device status ▾	Creation time ▲
○	optimus-prime	-	⊘ Registered	ⓘ Update available	11/10/2018, 11:33:24 PM

Cancel   Review

⏸   ●────────────────   -1:00   ⟷   🔊

DeepLens > Projects > kashif-worker-safety > Deploy project

Step 1
Target device

Step 2
Review and deploy

Target device

Choose the device you want to deploy your project to.

Devices (1)

🔍 Search devices   ‹ **1** ›   ⚙

	Name ▼	Project ▼	Registration status ▼	Device status ▼	Creation time ▲
◉	optimus-prime	-	⊘ Registered	① Update available	11/10/2018, 11:33:24 PM

Cancel   **Review**

DeepLens 〉 Projects 〉 kashif-worker-safety 〉 Deploy project

Share your feedback

Step 1
Target device

Step 2
Review and deploy

Target device

Choose the device you want to deploy your project to.

Devices (1)

🔍 Search devices   〈 **1** 〉   ⚙

	Name ▾	Project ▾	Registration status ▾	Device status ▾	Creation time ▲
⦿	optimus-prime	-	⊘ Registered	ⓘ Update available	11/10/2018, 11:33:24 PM

Cancel   **Review**

Share your feedback

Step 1
Target device

Step 2
Review and deploy

Review and deploy

Deployment check

AWS DeepLens will deploy the project below to your device. Choose Deploy to continue.

New project: kashif-worker-safety

Type	Name
Function	kashif-worker-safety-deeplens/versions/1
Model	deeplens-object-detection

ⓘ **Deployment will incur costs**
AWS DeepLens uses various services to help deploy a project to your device. Costs will be aggregated and itemized for review in AWS Billing.

Share your feedback

Step 1
Target device

Review and deploy

Step 2
Review and deploy

Deployment check

AWS DeepLens will deploy the project below to your device. Choose Deploy to continue.

New project: kashif-worker-safety

Type	Name
Function	kashif-worker-safety-deeplens/versions/1
Model	deeplens-object-detection

ⓘ **Deployment will incur costs**
AWS DeepLens uses various services to help deploy a project to your device. Costs will be aggregated and itemized for review in AWS Billing.

aws   **Services** ⌄   **Resource Groups** ⌄   ✲   🔔 ▓▓▓▓▓▓▓▓▓ **N. Virginia** ⌄   **Support** ⌄

AWS DeepLens   ✕

‹ **Deployment of project kashif-worker-safety, version 0 is in progress.**
2/27/2019, 2:36:35 PM: Downloading model:

▼ **Resources**

Projects

Devices

Models

▶ **Helpful links**

DeepLens > **Devices** > optimus-prime   **Share your feedback**

                                                    [Edit] [**Deregister**]

optimus-prime

Device status

Registration status	Device status	Device version
✓ Registered	⊘ Deployment in progress	1.3.25

Current project   [Remove project] [**Deploy a project**]

You are now ready to deploy a machine learning project. Choose **Deploy a project** to get started.

Project output

You can use AWS IoT console to view a JSON-formatted output of the project deployed to your AWS DeepLens device. **Info**

To view MQTT messages:

💬 **Feedback**   🌐 **English (US)**   © 2008 - 2019, Amazon Web Services, Inc. or its affiliates. All rights reserved.   Privacy Policy   Terms of Use

```
{
    "BoundingBox": {
        "Width": 0.38314348459243774,
        "Height": 0.6968706846237183,
        "Left": 0.2767423987388611,
        "Top": 0.2847670018672943
    },
    "BoundingBoxCoordinates": {
        "x1": 185.97089195251465,
        "y1": 191.36342525482178,
        "x2": 443.4433135986328,
        "y2": 191.36342525482178,
        "x3": 443.4433135986328,
        "y3": 456.1742854118347,
        "x4": 185.97089195251465,
        "y4": 456.1742854118347
    },
    "Confidence": 99.70462799072266
    }
],
"Message": "Person(s): 1\nPerson(s) With Safety Hat: 0\nPerson(s) Without Safety Hat: 1"
}
```