Short Guide to

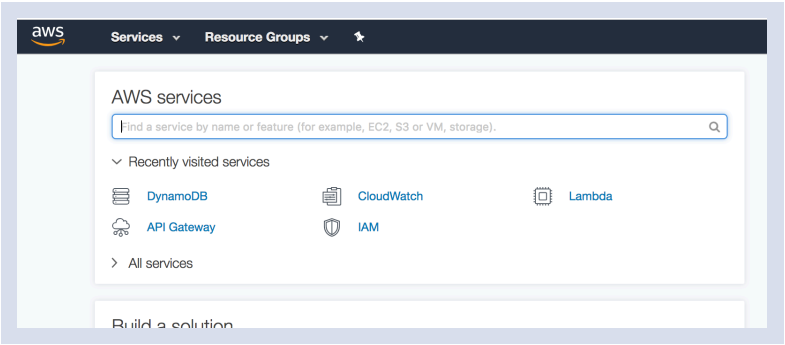
# DynamoDB

+ Lambda

## Creating a Dynamo DB (NoSQL) database and connection to a Lambda function (approx 5 minutes).

### Let's begin by creating a table within DynamoDB:

Navigate to AWS and type into the search input 'DynamoDB' or click the link on screen.

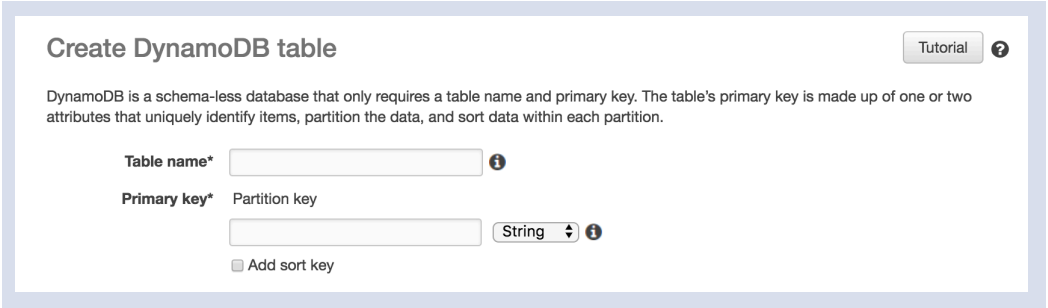



### To create the table:

Click the button from the centre section of the screen 'Create Table' as shown in the image below.


### Completing the details:

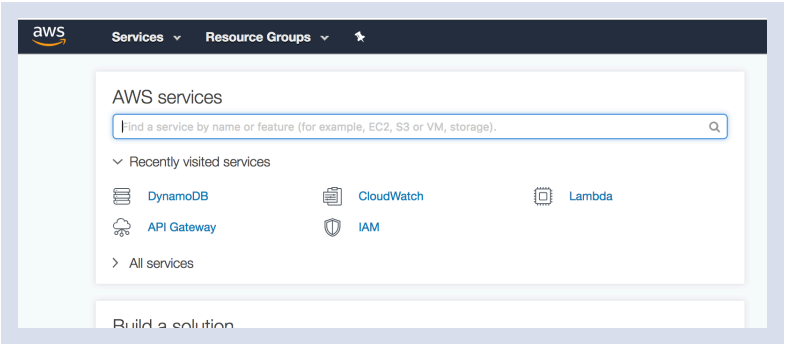
Include a table name and primary key.




**Ensure that the primary key's data type is correct before you select to 'Create Table'**

## Let’s connect the database to a Lambda function that can write to the database.

Navigate to AWS and type into the search input ‘Lambda’ or click the link on screen.

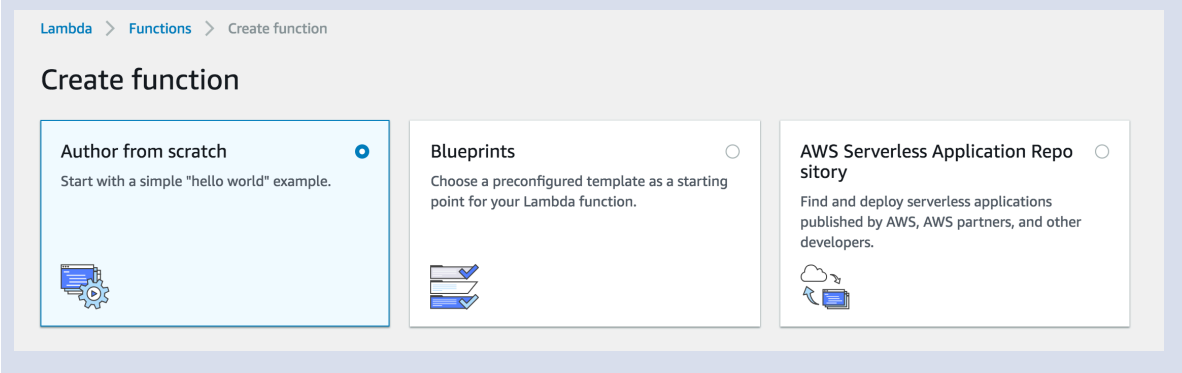



## Create a new Lambda function.

Click to create function.

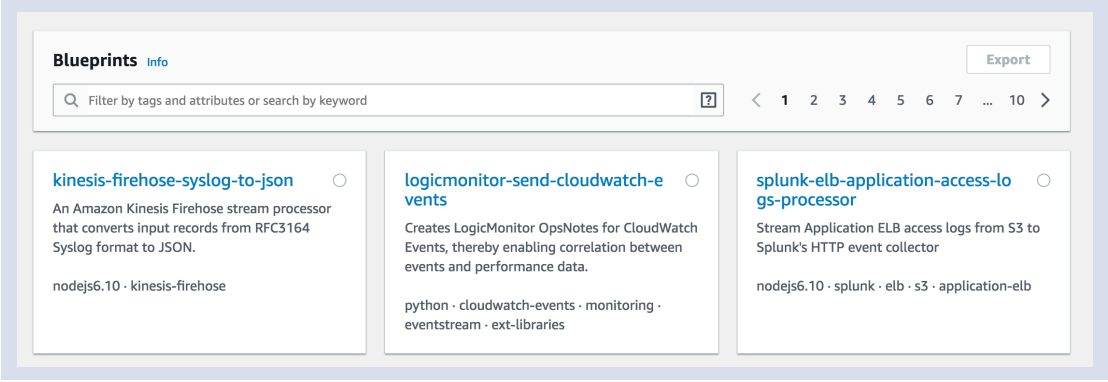

## Create new or template

Author from scratch will create the simplest version of Lambda with code to trigger ‘hello world’. Alternatively you can select from BluePrints or AWS repository to kick start your project.



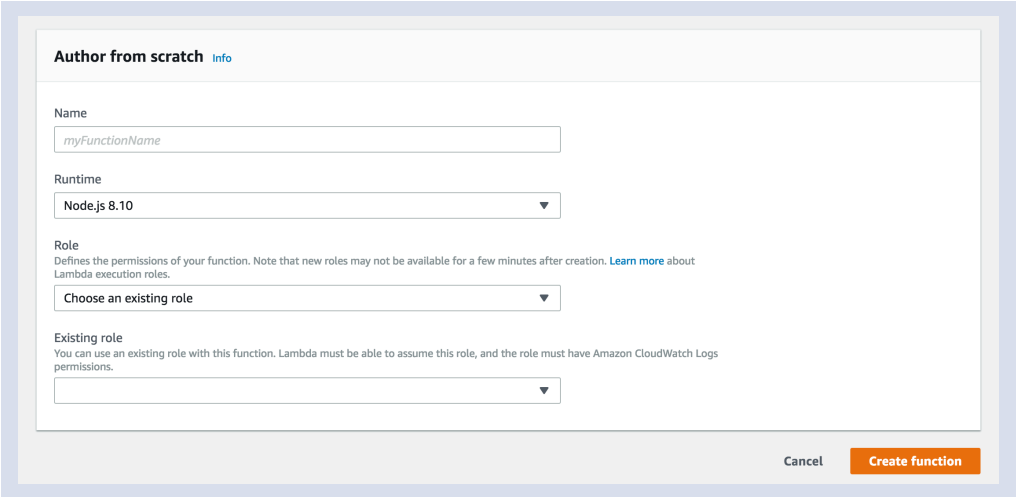

## Blueprints / AWS Repository

You can find Blueprints via the search input or select displayed lambda function blueprints.



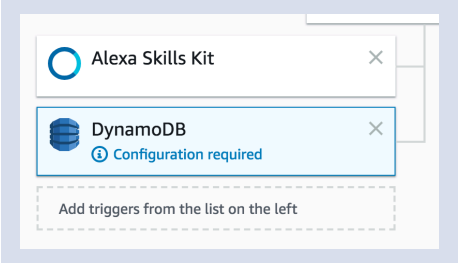
## From scratch

This is recommended if you want to get a feel for Lambda and have no specific project in mind. Complete the form and click the ‘Create function’ button at the bottom.



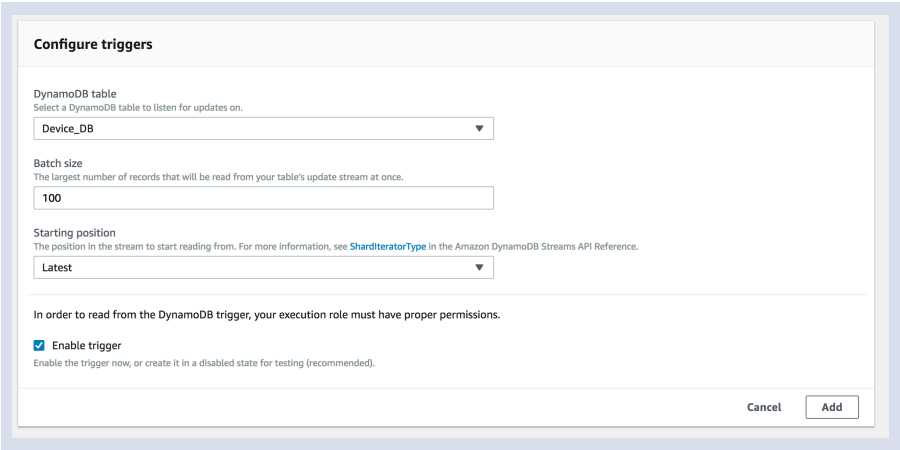

## Inside the Lambda

Lets connect the Database. First select ‘DynamoDB’ from the left hand side menu. This should then load a ‘DynamoDB’ block into the centre of the screen as shown below (you may or may not have an Alexa component to your app).




## Configure the DB

Scroll to the bottom of the page and complete the details below. Then click ‘Add’. Then ‘Save’ your function.



## Write to the DB

Here is an example of how to write to the database.

TableName: Name of your Table
Key: Here you can provide keys
UpdateExpression:
[set / get / put etc] [item key] = :[temp var]
“:[temp var] : value you wish to assign here”

**CODE Example:**

```
var AWS = require('aws-sdk');
var docClient = new AWS.DynamoDB.DocumentClient();

var params = {
        TableName: “ENTER DB NAME HERE",
        Key:{
            "instance": 0
        },
        UpdateExpression: "set light = :lightValue",
        ExpressionAttributeValues:{
            ":lightValue" : “Hello World”
        },
        ReturnValues:"UPDATED_NEW"
    };

docClient.update(params, ((err, data) => {
      if (err) {
        this.emit(':ask', 'Sorry the request failed. Please try again');
      } else {
        this.emit(':ask', 'Switching the light ' + slotValue);
      }
}));
```

## Read from the DB

Example of how to read from DB.

**CODE:**

```
var AWS = require('aws-sdk');
var docClient = new AWS.DynamoDB.DocumentClient();

var params = {
    TableName: “ENTER DB NAME HERE”,
    Key: {
        "instance": 0
    }
};

exports.handler = (event, context, callback) => {
    docClient.get(params, function(err, data) {
        if (err) { return console.error("that didn't work", data); }
        var payload = JSON.stringify(data, null, 2);
        var obj = JSON.parse(payload);
        var state = obj.Item;
        callback(null, state);
    });
};
```