

PROJECT TITLE: DEVELOP ALEXA SKILL FOR COVID-19

RECOMMENDATIONS

INTRODUCTION:

COVID-19 is an infectious disease caused by a newly discovered strain of coronavirus, a type of virus known to cause respiratory infections in humans. To develop Alexa Skill for COVID-19 recommendations.

OVERVIEW:

We used Alexa Developer, Dynamo DB, Lambda, API Gateway, IAM Management Console in AWS. We created tables using Dynamo DB this is embedded with Lambda. In lambda we can write the code to insert the data in the table. The IAM is used for security purposes, identity management. It has set of permission for making AWS service request. The API gateway is between the lambda and user interface, it generates the url which is the frontend. Thus, the final output is got from the Alexa Developer.

PURPOSE:

Alexa is a Virtual Assistant. It provides us suggestions such as to do our regular exercise, meditations, maintain a healthy diet, create conditions for a better sleep during nights, wash our hands regularly, take necessary sanitary measures and provides additional information about the spread of disease, climatic conditions in our area.

APPLICATIONS:

It is used to get suggestions from Alexa Echo for COVID-19 recommendations to keep ourselves safe from the pandemic and get more information about our surroundings and to make us to fight against the disease.

RESULT:

SCREENSHOTS OF OUTPUT

The screenshot displays the Alexa Developer Console interface. The top navigation bar includes tabs for 'Your Skills', 'add details', 'Build', 'Code', 'Test', 'Distribution', 'Certification', and 'Analytics'. The 'Test' tab is active, showing 'Skill testing is enabled in: Development'. Below this, there are checkboxes for 'Skill I/O' (checked), 'Device Display' (checked), and 'Device Log' (unchecked). The main area is divided into three sections: 'Alexa Simulator', 'Manual JSON', and 'Voice & Tone'. The 'Alexa Simulator' section shows a conversation with the skill. The user says 'Are You sure I'm santo?'. The skill responds with a blue speech bubble: 'Your Details are Registered I'm santo, I hope It's wonderfull Growing up at trichy, Must be very fascinating to you. Okay, Having 99 Temperature You dont need to worry! I Wish I could help you more, Please check @https://covidindia.org/ For more information and guidelines about COVID-19'. The 'Manual JSON' section shows the 'Skill Invocations' list with 'Viewing: 1 / 2'. The 'JSON Input 1' and 'JSON Output 1' are displayed. The 'JSON Output 1' shows the skill's response in JSON format, including the output speech and session attributes. The bottom of the screen shows the Windows taskbar with various application icons and the system clock indicating 03:55 PM on 09-09-2020.

The screenshot displays the Alexa Developer Console interface, specifically the 'Code' tab. The top navigation bar includes tabs for 'Your Skills', 'add details', 'Build', 'Code', 'Test', 'Distribution', 'Certification', and 'Analytics'. The 'Code' tab is active, showing the skill code. The code is a Python file named 'lambda_function.py'. The code includes comments and imports for the Alexa Skills Kit SDK for Python. The main class is 'LaunchRequestHandler', which implements the 'handle' method. The code is as follows:

```
1 # -*- coding: utf-8 -*-
2
3 # This sample demonstrates handling intents from an Alexa skill using the Alexa Skills Kit SDK for Python.
4 # Please visit https://alexa.design/cookbook for additional examples on implementing slots, dialog management,
5 # session persistence, api calls, and more.
6 # This sample is built using the handler classes approach in skill builder.
7 import logging
8 import ask_sdk_core.utils as ask_utils
9 import requests
10 import json
11
12 from ask_sdk_core.skill_builder import SkillBuilder
13 from ask_sdk_core.dispatch_components import AbstractRequestHandler
14 from ask_sdk_core.dispatch_components import AbstractExceptionHandler
15 from ask_sdk_core.handler_input import HandlerInput
16 from ask_sdk_core.utils import is_intent_name, get_dialog_state, get_slot_value
17 from ask_sdk_model import Response, DialogState
18
19 logger = logging.getLogger(__name__)
20 logger.setLevel(logging.INFO)
21
22
23 class LaunchRequestHandler(AbstractRequestHandler):
24     """Handler for Skill Launch"""
25     def can_handle(self, handler_input):
26         # type: (HandlerInput) -> bool
27         return ask_utils.is_request_type("LaunchRequest")(handler_input)
28
29     def handle(self, handler_input):
```

The bottom of the screen shows the Windows taskbar with various application icons and the system clock indicating 04:02 PM on 09-09-2020.

us-west-2.console.aws.amazon.com/lambda/home?region=us-west-2#/functions/personDetails?newFunction=true&tab=configuration

Successfully updated the function **personDetails**.

Lambda > Functions > personDetails

ARN - arn:aws:lambda:us-west-2:595054892963:function:personDetails

personDetails

Throttle Qualifiers Actions personName Test Save

Execution result: succeeded (logs)

Details

Configuration Permissions Monitoring

Designer

personDetails

Layers (0)

© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use

us-west-2.console.aws.amazon.com/dynamodb/home?region=us-west-2#tables:selected=personDetailsstab=items

DynamoDB

Dashboard

Tables

Backups

Reserved capacity

Preferences

DAX

Dashboard

Clusters

Subnet groups

Parameter groups

Events

Create table Delete table

Filter by table name

Choose a table ... Actions

Name

personDetails

personDetails Close

Overview Items Metrics Alarms Capacity Indexes Global Tables Backups More

Create item Actions

Scan: [Table] personDetails: personName

Viewing 1 to 4 items

Scan [Table] personDetails: personName

Add filter

Start search

personName	personLocation	Temperature
I'm santo	trichy	<empty>
Mns	Chennai	35
San	<empty>	
Santo		

© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use

The top screenshot shows the AWS API Gateway console, specifically the 'personDetails Stage Editor'. The 'Invoke URL' is set to 'https://1ryyf1qnda.execute-api.us-west-2.amazonaws.com/personDetails'. The 'Default Method Throttling' settings are visible, showing 'Enable throttling' checked and a 'Rate' of 10000 requests per second.

The bottom screenshot shows the AWS Identity and Access Management (IAM) console, specifically the 'Permissions' tab for a role. The 'Permissions policies (6 policies applied)' section lists the following policies:

Policy name	Policy type
AmazonDynamoDBFullAccess	AWS managed policy
AWSLambdaDynamoDBExecutionRole	AWS managed policy
AWSCodeDeployRoleForLambda	AWS managed policy
AWSLambdaBasicExecutionRole	AWS managed policy
AWSLambdaInvocation-DynamoDB	AWS managed policy
AWSLambdaBasicExecutionRole-361360c3-3c46-4058-9324-ca0a37dfb...	Managed policy

The 'Permissions boundary' is noted as '(not set)'.

CONCLUSION:

Thus, we developed a Alexa Skill Developer using Amazon Developer for COVID-19 for social distancing.

FUTURE SCOPE:

Alexa will provide the advice on symptoms, causes, suggestions and help us to stay safe from the COVID-19 pandemic.