Movie Ticketing Bot

Introduction

This project is aimed at helping anyone get started with understanding how to use Watson Assistant service to create a chat bot that will book tickets to a movie. The Watson Assistant service available as a Platform as a Service (PaaS) on IBM Cloud provides a AI tooling that can easily allow creating converstaional solutions that fits one's business needs.

Basic Terminologies used

Intents

An intent is a collection of user statements that have the same meaning. By creating intents, you train your assistant to understand the variety of ways users express a goal.

Entities

Entities are like nouns or keywords. By building out your business terms in entities your assistant can provide targeted responses to queries.

Dialog

A dialog defines the conversational flow, which is simply a logical flow that determines responses based on a met condition. The dialog flows in a top-to-bottom, left-to-right fashion.

Project Description:

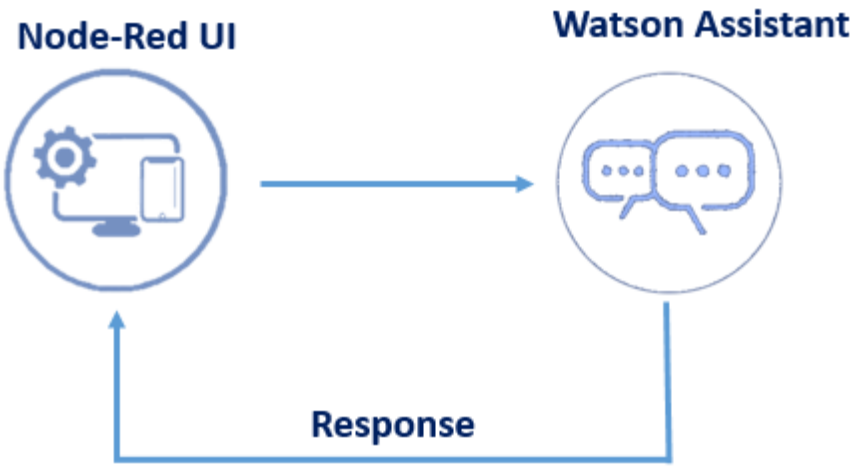
In this project, we will be building a chatbot using Watson assistant. This chat should have the following capabilities:

1. Give the list of movies available
2. The Bot should be able to show different show timings
3. When a movie is selected the bot should show the availability of tickets and their respective prices.
4. The bot should be in a position to book tickets.

Services Used:

1. IBM Watson Assistant
2. Node-Red

Architecture:



Steps for building a project

Sign up on IBM Cloud

An IBM Cloud account - A lite account, which is a free of charge account that doesn't expire, can be created through going to IBM Cloud.

Create a Watson Assistant service

1. Select Catalog found at the top right of the page.
2. Click on Watson from the menu on the left, which you can find under Platform services.
3. Select Watson Assistant.
4. Enter the Service name or keep the default value and make sure to select your desired region/location, organization, and space.
5. Select Lite for the Plan, which you can find under Pricing Plans and is already selected. Please note you are only allowed one instance of a Lite plan per

service.

6. Click on Create.
7. You will be taken to the main page of the service. Click on Launch tool.

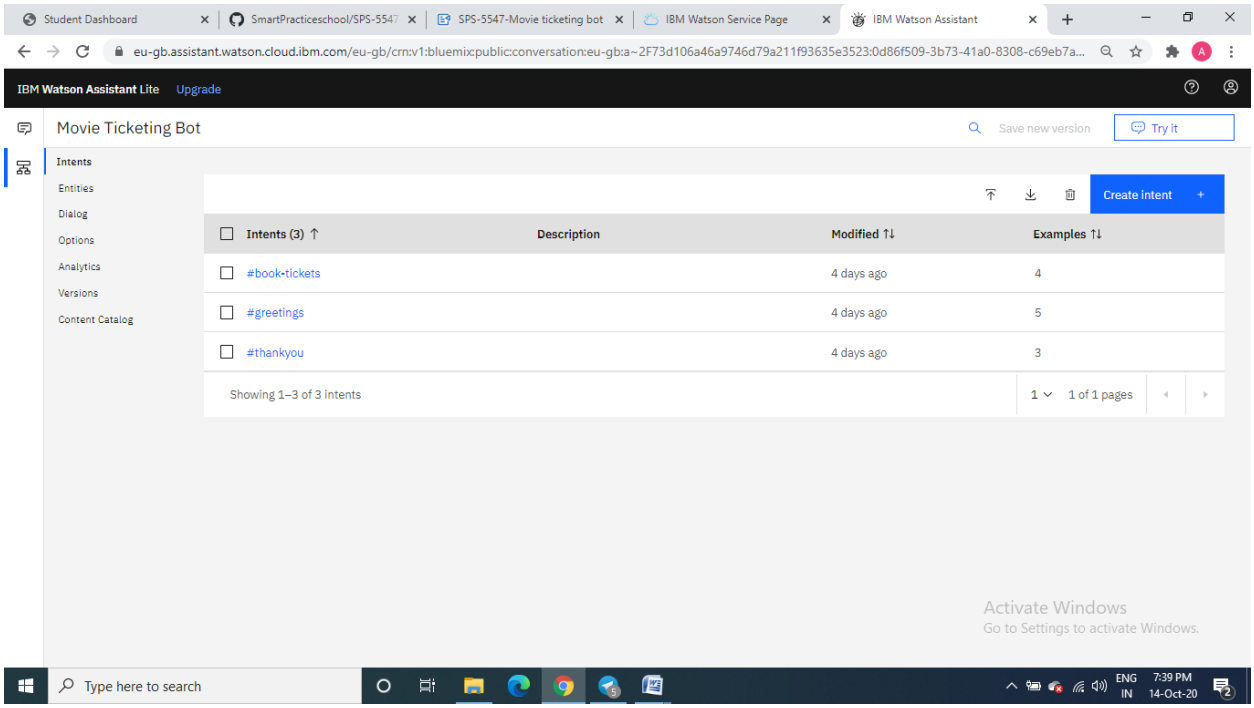
Create a Workspace

1. Scroll down and click on Create a Workspace found under Get started now
2. Click on Create found in the dotted box that is titled Create a new workspace.
3. Give your workspace a Name and Description (optional) based on the purpose of the conversational solution.
4. Click *Create*. This will open the workspace, where you will define the Intents, Entities and Dialog.

Define Intents

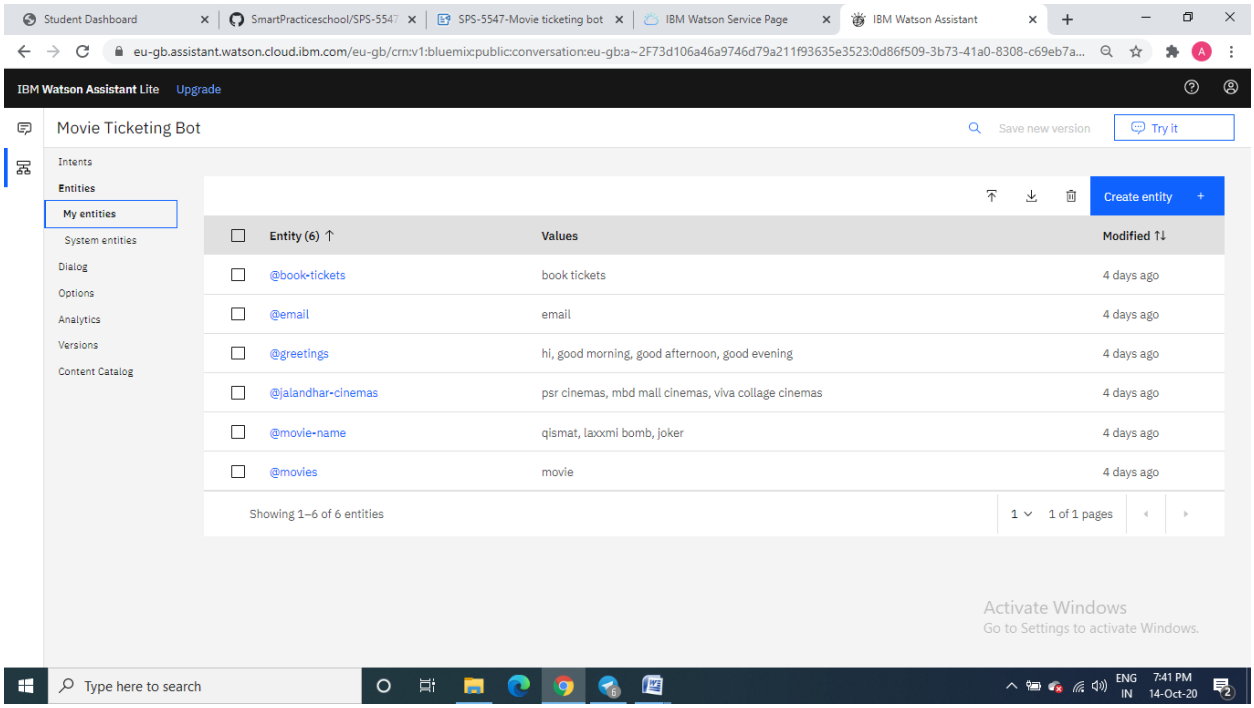
For the intents, we can define 3 main intents that the user will have: greeting the bot (#greetings), thank the bot for accomplishing the task (#thankyou), and booking movie ticket(s) (#book-tickets).

1. Under the tab Intents, click on Add intent.
2. Enter the Intent name and Description (optional) and click on Create intent.
3. Under Add user examples, add the utterances that are expected to be mentioned based on the intent and click on Add example. Make sure to add atleast 5 user examples per intent to proper allow the Natural Language Classifier that is embedded in the Watson Assistant service.



Define Entities

1. Under the tab Entities, click on Add entity that will be under the tab My entities (these are the user defined entities).
2. Enter the Entity name and click on Create entity.
3. Add the Value name and its corresponding Synonyms and click on Add value. Here, there are restrictions on the number of values and synonyms that can be added.

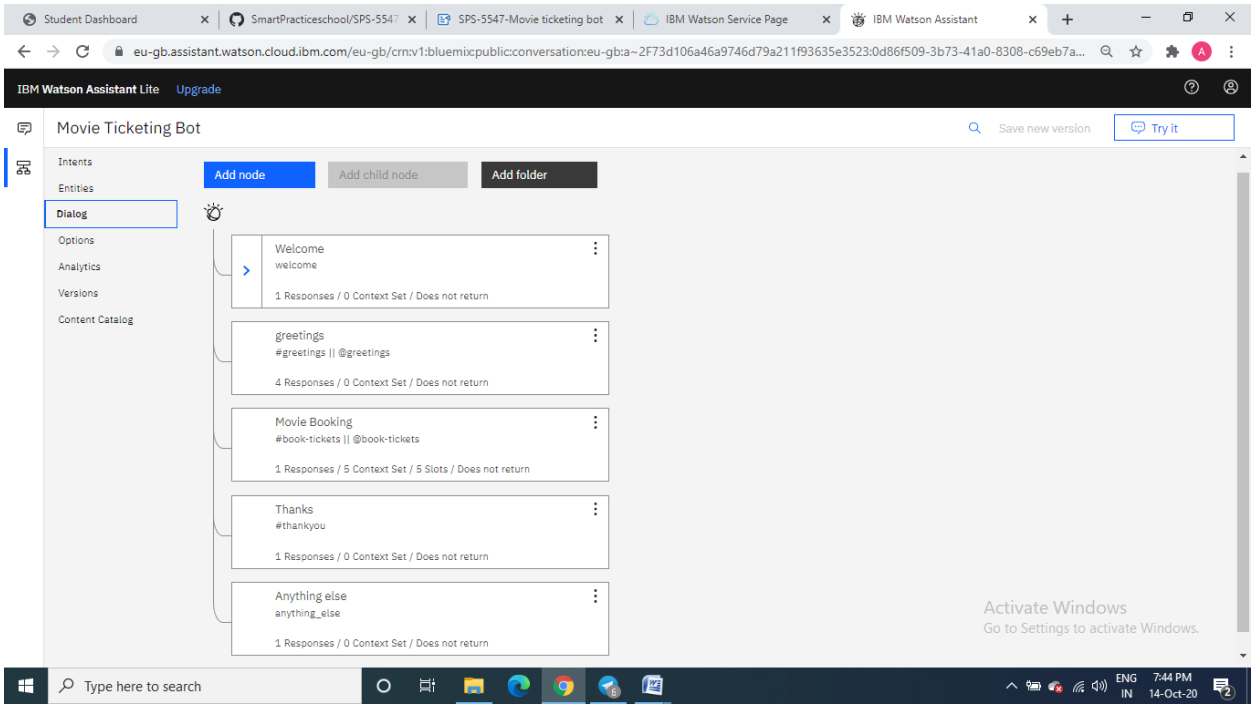


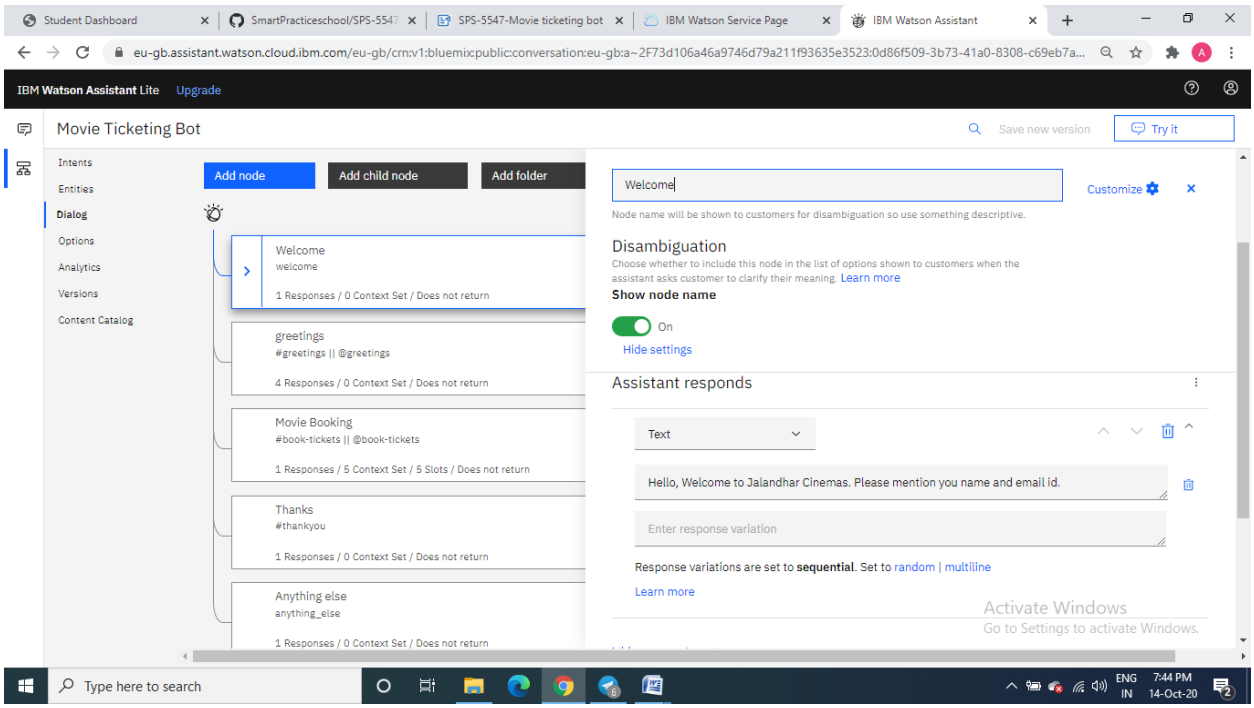
4. Under System entities, whcih are pre-defined entities that can be directly used, enable sys-date, sys-time, and sys-number. These will be used in the dialog to get the date and time of when the user wishes to see the movie and the number of seat he/she wishes to reserve.

Create Dialog Flow

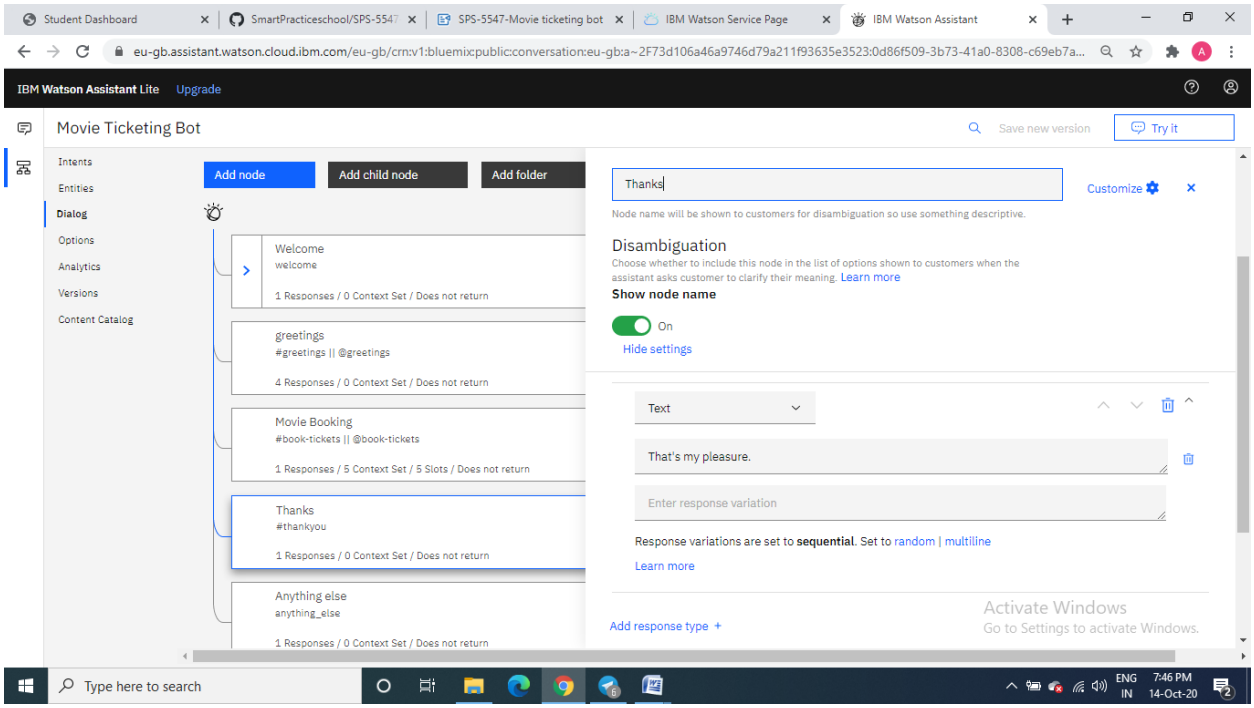
1. Click on the tab Dialog, where you will see to pre-defined nodes: *Welcome* and *Anything else*. The *Welcome* has a special condition called welcome that is triggered when a converstaion is started by the system. The *Anything else* node has a special condition called anything_else that is triggered when the user input does not match any of the conditions in previous nodes.

2. Click on the *Welcome* node and modify the responses that will determine how the bot first greets the user.

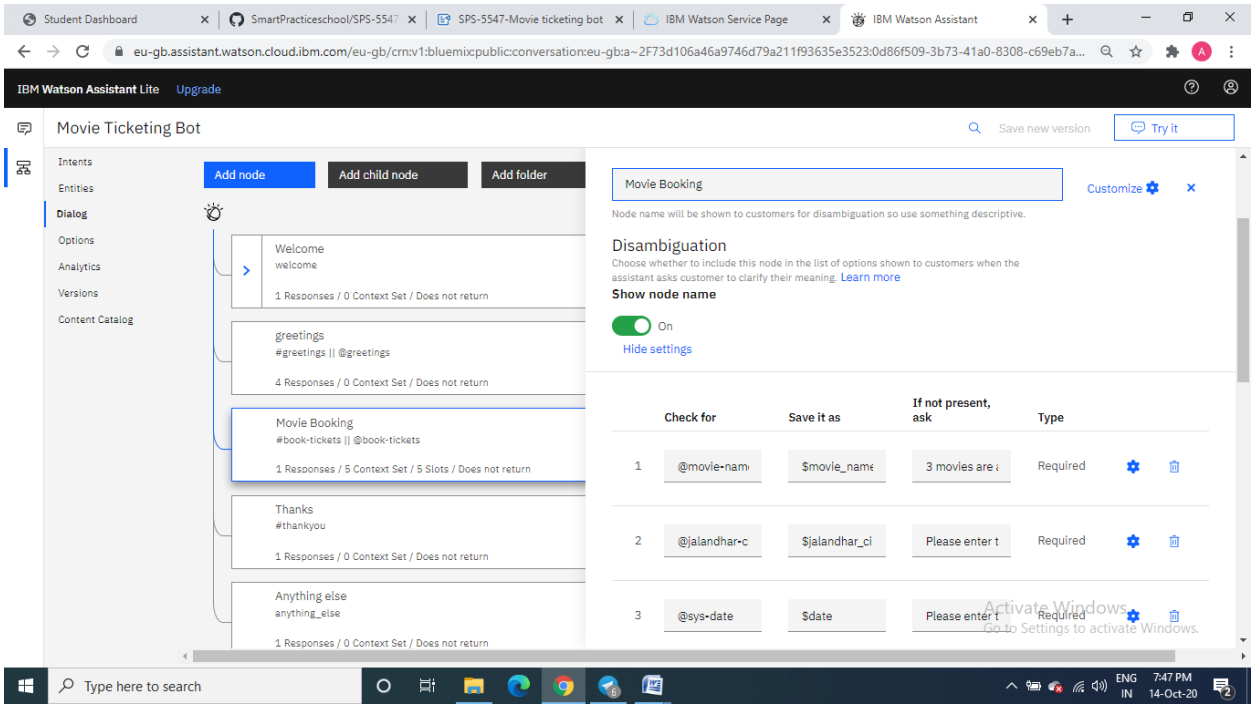




6. Create a new node and call it *Thank You*, whcih is triggered when *#thankyou* is detected. Complete the rest of the details as follows.



7. Click on the *Greetings* node and click on Add node.
8. Call the node *Movie Booking* . As a name suggests, this is where we will be gathering details about the booking, which will be done through slots.
9. Beside the name of the node we just defined, there is a Customize button. Click on it, enable Slots and click on Apply.

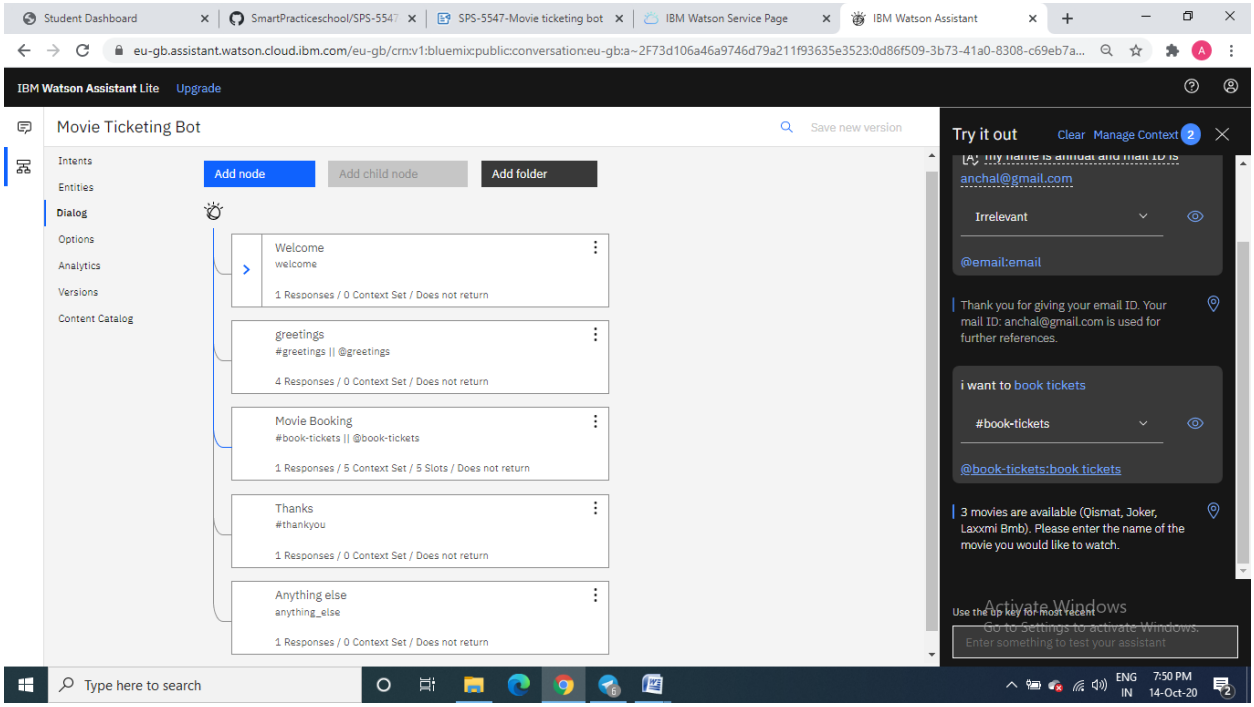


10. Create the slots which you want to create as per your requirements.

Try It Out

Next is trying out the flow defined.

1. Click on the Try it button found at the top right of the page.
2. Start conversing with the chatbot (an example is given below).



Steps for Integration of Watson Assistant to Node Red

1, Login to IBM and go to the catalog

2. Search for node-red and select “Node-RED Starter “ Service

3. Enter the Unique name and click on create a button

4. Once your Node-red Service is “Running” or “ Awake” click on “visit app url” to launch Node-red Service.

5. We have to configure Node red for the first time. Click on next to continue.

6. Secure your node red editor by giving a username and password and click on Next. 7. Click Next to continue.

8. Click Finish

9. Click on Go to Node-Red flow editor to launch the flow editor

10. Drag assistant node on to the flow

11. Double-click on the Watson assistant node

12. Give a name to your node and enter the username, password and workspace id of your Watson assistant service

13. After entering all the information click on Done

14. Drag inject node on to the flow from the Input section

15. Drag Debug on to the flow from the output section

16. Double-click on the inject node

17. Select the payload as a string

18. Enter a sample input to be sent to the assistant service and click on done

19.Connect the nodes and click on Deploy

20.Open Debug window

21. Click on the button to send input text to the assistant node

22. Observe the output from the assistant service node

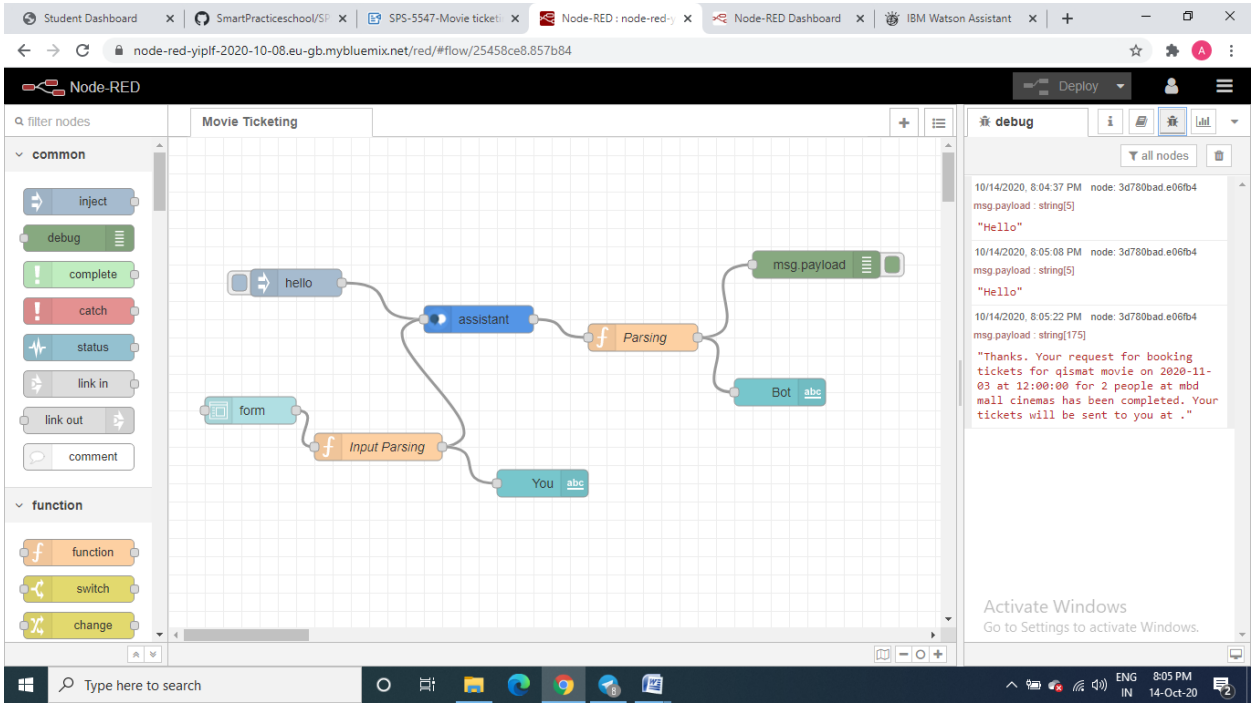
23. The Bot output is located inside “output.text”

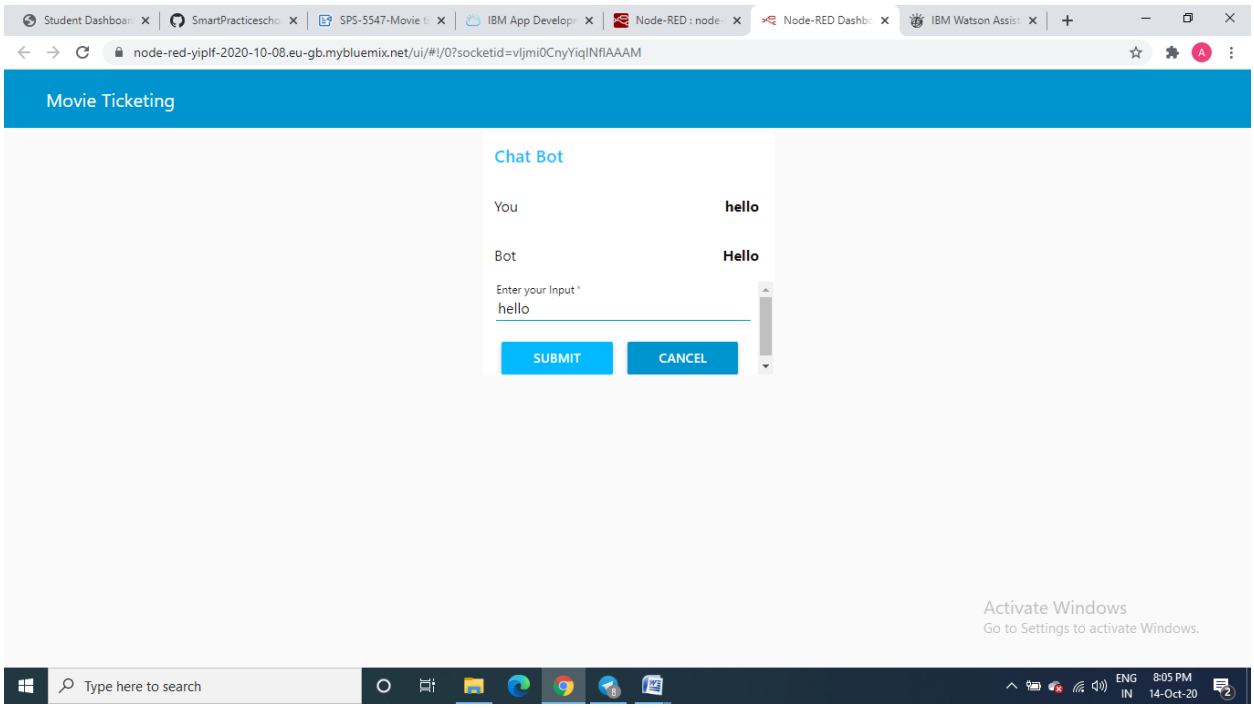
24. Drag the function node to parse the JSON data and get the bot response

25. Double click on the function node and enter the JSON parsing code click on done

26. Connect the nodes and click on Deploy

27. Re-inject the flow and observe the parsed output.


Node-RED
Deploy
Movie Ticketing
filter nodes
common
inject
debug
complete
catch
status
link in
link out
comment
function
function
switch
change
hello
assistant
Parsing
msg.payload
Bot
form
Input Parsing
You
debug
all nodes
10/14/2020, 8:04:37 PM node: 3d780bad.e06fb4
msg.payload : string[5]
"Hello"
10/14/2020, 8:05:08 PM node: 3d780bad.e06fb4
msg.payload : string[5]
"Hello"
10/14/2020, 8:05:22 PM node: 3d780bad.e06fb4
msg.payload : string[175]
"Thanks. Your request for booking tickets for qismat movie on 2020-11-03 at 12:00:00 for 2 people at mbd mall cinemas has been completed. Your tickets will be sent to you at ."
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
IN
8:05 PM
14-Oct-20


Movie Ticketing
Chat Bot
You
hello
Bot
Hello
Enter your Input *
hello
SUBMIT
CANCEL
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
IN
8:05 PM
14-Oct-20

Bibliography

1. Creating Watson Assistant Service- "https://youtu.be/tUBJZfnxeTw"

2. Integrate Node Red to Watson Assitant- http://www.iotgyan.com/learning-resource/integration-of-watson-assistant-to-node-red

3. Bot Asset Exchange (contains workspaces that can be explored) https://developer.ibm.com/code/exchanges/bots/