

HR RECRUITER BY USING ARTIFICIAL INTELLIGENCE

A project report submitted to

Jawaharlal Nehru Technological University, Hyderabad

In partial fulfillment for the requirement for the award of the degree of

BACHELOR OF TECHNOLOGY

In

COMPUTER SCIENCE AND ENGINEERING

Submitted By

G.ANJIREDDY

(17UK1A05L5)

G.RAVALI

(17UK1A05M3)

I.ANUSHA

(17UK1A05L4)

P.VENKATESHWARBABU

(18UK5A0513)

A.SAIKUMAR

(17UK1A05M4)

Under the Guidance of

Mr. J. SHYAM SUNDER

(Assistant professor)



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VAAGDEVI ENGINEERING COLLEGE

(Affiliated JNTU HYDERABAD)

2017-2021

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VAAGDEVI ENGINEERING COLLEGE

(Affiliated to JNTU HYDERABAD)

WARANGAL – 506005



CERTIFICATE

This is to certify that the Mini Project entitled “**HR RECRUITER BY USING ARTIFICIAL INTELLIGENCE**” is prepared and submitted by **G.ANJIREDDY (17UK1A05L5), G.RAVALI (17UK1A05M3), I.ANUSHA (17UK1A05L4), P.VENKATESHWARBABU (18UK5A0513), A.SAIKUMAR (17UK1A05M4)** in partial fulfillment of the requirements for the award of the Degree in Bachelor of Technology in Computer Science & Engineering to Jawaharlal Nehru Technological University Hyderabad during the academic year 2020-2021.

Internal Guide

Mr. J.SHYAM SUNDER

(Assistant professor)

External

Head of the Department

**Dr. R.NAVEEN
KUMAR**

(Professor)

ACKNOWLEDGEMENT

We wish to take this opportunity to express our sincere gratitude and deep sense of respect to our beloved **Dr. P. PRASAD RAO**, Principal, Vaagdevi Engineering College for making us available all the required assistance and for his support and inspiration to carry out this mini project in the institute.

We extend our heartfelt thanks to **Dr. R. NAVEEN KUMAR**, Head of the Department of CSE, Vaagdevi Engineering College for providing us necessary infrastructure and thereby giving us freedom to carry out the mini project.

We express our heart felt thanks to **Mr. Ch. JAYAPRAKASH**, Program Manager, Smart Bridge Educational Services Private Limited, for their constant supervision as well as for providing necessary information regarding the mini project and for their support in completing the mini project.

We express our heartfelt thanks to the guide, **Mr. J. SHYAM SUNDER**, Assistant Professor, Department of CSE for his constant support and giving necessary guidance for completion of this mini project.

G.ANJIREDDY	(17UK1A05L5)
G.RAVALI	(17UK1A05M3)
I.ANUSHA	(17UK1A05L4)
P.VENKATESHWARBABU	(18UK5A0513)
A.SAIKUMAR	(17UK1A05M4)

CONTENTS

TOPICS	Page No.
Abstract	i
List of Figures	ii
List of Screens	iii
1. INTRODUCTION	
1.1 Motivation	1
1.2 Problem definition	2
1.3 Objective of Project	2
1.4 Limitations of Project	2
2. LITERATURE SURVEY	
2.1 Introduction	4
2.2 Existing Problem	4
2.3 Proposed Solution	4
3. ANALYSIS	
3.1 Introduction	5
3.2 Software Requirement Specification	5
3.2.1. User requirement	5
3.2.2. Software requirement	5
3.2.3. Hardware requirement	6
3.3 Content diagram of Project	6
4. DESIGN	
4.1. Introduction	7
4.2. UML diagram	7
4.3. Module design and organization	8

5. IMPLEMENTATION & RESULTS

5.1 Introduction	9
5.2 Explanation of Key functions	25
5.3 Method of Implementation	27
5.3.1 Output Screens	27
5.3.2 Result Analysis	28

6. TESTING & VALIDATION

6.1 Introduction	29
6.2 Design of test cases and scenarios	30
6.3 Validation	30
6.4 Conclusion	30

7. CONCLUSION: Project Conclusion	39
Future enhancement	39

8. REFERENCES:

Abouserie, R. (I 992) Statistical Methods for Educational and Psychological Research: Basic Concepts, Cardiff: UWCC.

ABSTRACT

The purpose of the project is to assess the artificial intelligence chat-bots influence on recruitment process. The authors explore how chat-bots offered service delivery to attract and candidates engagement in the recruitment process. The aim of this project is to identify chat-bots impact across the recruitment process. The study is completely based on secondary sources like conceptual projects, peer reviewed articles, websites are used to present the current paper. The paper found that artificial intelligence chat-bots are very productive tools in recruitment process and it will be helpful in preparing recruitment strategy for the Industry. Additionally, it focuses more on to resolve complex issues in the process of recruitment. Through the amalgamation of artificial intelligence recruitment process is increasing attention among the researchers still there is opportunity to explore in the field. The paper provided future research avenues in the field of chat-bots and recruiters. Keywords—Artificial intelligence, chat-bot, recruitment process, candidates experiences, employer branding tool, recruitment industry

LIST OF FIGURES

Fig. 1:

Block Diagram of HR chat-bot

4

Fig. 2:

Sequence diagram of HR Chat-bot

5

LIST OF SCREENS

Input Screen – 1:

- IBM Cloud page

Input Screen – 2:

- IBM Login page

Input Screen – 3:

- IBM Resource page.

Input Screen – 4:

- IBM Catalog page

Input Screen – 5:

- IBM Cloud Discovery page

Input Screen – 6:

- IBM Cloud Watson Assistant page

Input Screen – 7:

- Resource list.

Input Screen – 8:

- IBM Cloud Launch Watson Assistant page

Output Screen-1:

- HR Chat-bot web page

Output Screen-2:

- HR Chat-bot Page

1. INTRODUCTION

1.1. MOTIVATION:

AI is changing our life in many ways. From automation of repetitive time-consuming tasks, to the augmentation and amplification of human capabilities, AI has the potential to radically transform the way we live and work. For HR, this means not only an opportunity but also an recruitment and selection efficiency, better (unbiased) decision making and improved employee experience. We create recruiter assistant who take aptitude round test and interview round test then forward the application to the recruiter which makes an easy task for the recruiter to select students in some students as well as for students as they are prepared for recruitment or not. This interview question evaluates different resources and techniques that a candidate uses to stay current on HR recruiting trends. In all, both questions are looking at the proactive behavior of the candidate in their growth. A Chat-bot is a software application used to conduct an online chat conversation via text or text-to-speech, in lieu of providing direct contact with a live human agent. Designed to convincingly simulate the way a human would behave as a conversational partner, chat-bot systems typically require continuous tuning and testing, and many in production remain unable to adequately converse or pass the industry standard Turing test. Chat-bots are typically used in dialog systems for various purposes including customer service, request routing, or for information gathering. While some chat-bot applications use extensive word-classification processes, Natural Language processors, and sophisticated AI, others simply scan for general keywords and generate responses using common phrases obtained from an associated library or database. Interactions with these chat-bots are highly specific and structured and are most applicable to support and service functions—think robust interactive FAQs. Task-oriented chat-bots can handle common questions, such as queries about hours of business or simple transactions that don't involve a variety of variables. Though they do use NLP so end users can experience them in a conversational way, their capabilities are fairly basic. These are currently the most commonly used chat-bots.

1.2. PROBLEM DEFINATION:

To create a chat-bot that can filter students for recruitment and make it easy for the recruiter to select students from already filtered students. Stage to hire a person based on skill and behavior with respect to company needs. **Recruitment** refers to the overall process of identifying, attracting, screening, shortlisting, and **interviewing**, suitable candidates for jobs within an organization. A usual chat-bot answers only the basic queries by the user. All other detailed queries are connected to humans. But, the smart document understanding capability of Watson discovery along with Watson assistant and node-red complex queries could now be answered by the bot reducing human intervention.

1.3. OBJECTIVE OF PROJECT:

The HR functions comprise of recruitment, onboarding, compensation, benefits, payroll, etc. However, automation is very much needed in the recruitment process. Here is why: AI reduces the workload of hiring managers and professionals by automating all the tasks. With its adoption, recruiters can save their time and pay attention to other business activities. A job position attracts numerous resumes. Sorting them out and finding the relevant ones is a tough job. In this process, recruiters tend to ignore and misplace many resumes. This results in having bad hires. Urgent hiring calls for technology. When recruiters have to fill in a vacancy in a stipulated period, manual resume processing doesn't work.

1.4. LIMITATION OF PROJECT:

It is not always possible for a human resource department to handle recruitments for top management positions. A recruitment team is the only solution to it as they consist of highly-skilled and experienced recruiters. All you have to do is tell them about the qualifications and professional requirements you are looking for the job opening, and the team takes it forward for them. However, it isn't as easy as it looks because the recruitment team might not understand your business goals, which your HR department does.

So here are three benefits and limitations of hiring a dedicated recruitment team:

1. Process consumes a lot of time

Recruitment is a lengthy process, and the recruitment agency might take a lot of time to find the correct candidates. A recruitment team isn't helpful when you want a candidate to fill a vacant position immediately.

2. Communication gap

The only way to communicate with the recruitment team is via emails or telephones. There can be times where the team doesn't properly understand what the company wants and finds a wrong candidate.

On the other hand, the company's HR department is always there, so they can proactively search according to the company's need. They understand the business model in a better way as well.

3. Not practical for temporary hires

Hiring a recruitment team for finding candidates for project work isn't ideal since the person is only going to work for a limited time. So, you will only have to bear the load of finding employees on a temporary basis.

In such circumstances, the cost of operation goes higher than the benefits the company gets on by making the hire.

2. LITERATURE SURVEY

2.1. INTRODUCTOION:

The process of recruitment is a primary method of people absorption function in any organization. Various companies small and big, strategize and adopt various tactics in choosing the right source of recruitment or hiring quality professionals on to their workforce. Therefore, this research aims to investigate or enquire the various research literature published on various main recruitment methods implemented in company's recruitment process or function. In this paper, the resultant outcomes based on last 20 years literature investigation are discussed in detail through a systematic review. Accordingly, the relevant resultant outcomes post the literature investigation is published by making suggestions for sustenance in the industry.

Keywords: Organizational Recruitment, Recruitment Literature Review, Company Recruitment, Strategic Recruitment Analysis, Hiring Literature Survey.

2.2. EXISTING PROBLEM:

Students go to a particular place to give tests and interviews which is difficult for some students in particular situations like COVID-19 pandemic, etc. The recruiter also faces many problems as they have to select some students from a large number of students. One of the reasons why the process takes long is the unavailability of fitting talents. As such, you find recruiters struggling with reaching a consensus leading to the best hands getting recruited elsewhere. Sometimes, you are faced with the **challenge** of filling certain roles with a dearth of talent.

2.3. PROPOSED SOLUTION:

We have created a chat-bot that will filter students which will make it an easier task to recruit students from already filtered students. This chat-bot will also help students by telling them about their performance in the aptitude test and interview test. Also, students will get an idea about which questions are asked in the test and interview.

Which gives some idea to students how they can prepare.

3. ANALYSIS

3.1. INTRODUCTION:

Chat-bot projects that use Watson Assistant involve three phases: scope, design, and integrate. In the scope phase, you gather requirements for the conversation and how customers support the use case today. They might have a script, coded procedures, or other artifacts. You define personas, create an empathy map, and build a system context diagram. Then, you extract the potential list of intents. *Intents* are the purposes or goals that are expressed in a user's input, such as answering a question or processing a payment. After you define intents, you assess the sentences that lead to those intents. In the design phase, you create an instance of Watson Assistant and use its builder tool to define the intents and the entities. An *entity* represents a class of object or data type that is relevant to a user's purpose. At the end of the design phase, you start the dialog flow and unit-test it. Finally, in the integrate phase, you develop the web app or micro-service that interacts with Watson Assistant. You implement the business logic to handle the conversation context, and add other components to complement the business requirements, such as the IBM Watson Retrieve and Rank Service, ODM business rules, or IBM process.

3.2. SOFTWARE REQUIREMENTS:

3.2.1. USER REQUIREMENTS:

- Gather requirements for the conversation and how the customer is supporting the use case today
- Define personal
- Build Empathy Map
- Build System Context Diagram
- Define intent and source of utterances

3.2.2. SOFTWARE REQUIREMENTS:

- Create IBM Cloud services
- Configure Watson Discovery
- Create IBM Cloud Functions action
- Configure Watson Assistant
- Create flow and configure node

- To use web app integration.
- Visual Studio
- Html & CSS

3.2.3. HARDWARE REQUIREMENTS:

- Ram-4GB
- Intel(R) Core(TM) i3-7020U CPU @ 2.30GHz

3.3. Content diagram of Project

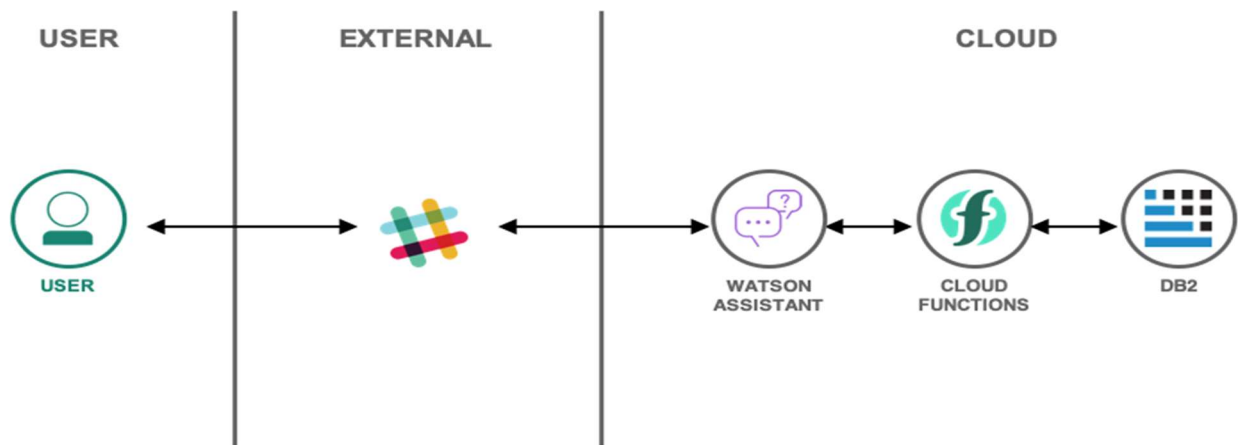


Fig1: Block Diagram of Hr chat-bot

4. DESIGN

4.1. INTRODUCTION:

Chat-bot, also known as “conversational agent”, is a trending technology. Chat-bots are changing the business landscape. Its emergence in the enterprise has several implications that require some thought. Building a bot is not a hard task; with the rise of many platforms, it’s now easier than ever to develop and deploy one. The challenge with chat-bots lies in delivering a good user experience, and they only present opportunities if done right. But, designing a conversation that meets consumer needs and returns real business value requires a nuanced strategy and in-depth considerations. The experience you are creating for your clients is paramount. Before moving quickly to development, figure out the problem areas that you, your users, and your employees are struggling with, and if a chat-bot is the best fit to meet everyone’s needs.

Deploying chat-bots in the enterprise raises a host of potential issues that inevitably affect the deployment of enterprise software, including performance, scalability, and especially security. Enterprise chat-bots may require access to user credentials, profile information, and enterprise data to perform useful functions. Any chat-bot initiative must comply with enterprise cybersecurity standards.

In this post, we’ll be taking a look at addressing some of these concerns and show how to design a chat-bot using IBM Watson Assistant.

4.2. UML DIAGRAMS:

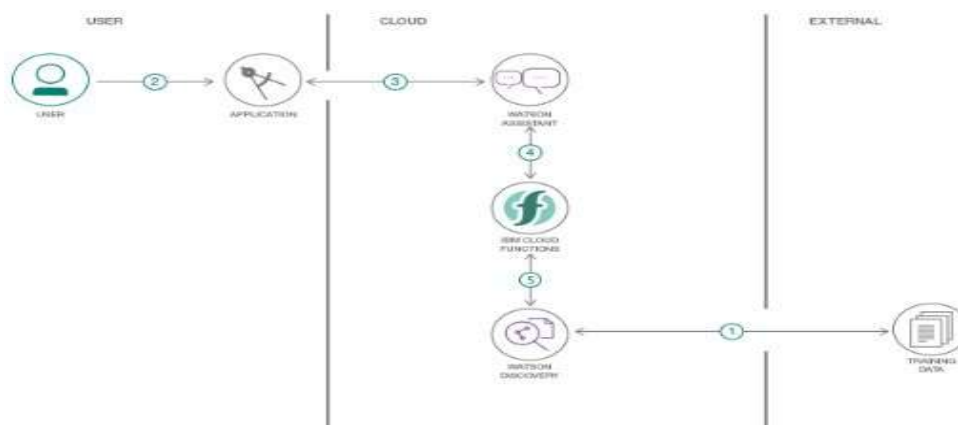


Fig 2: Sequence diagram of HR Chat-bot

4.3. MODULE DESIGN AND ORGANISATION:

Many organization might consider using the HR recruiter term unnecessary to use as HR managers.

If organization is not bearing the burning point then at that time. As a HR manager I will perform similar tasks i.e. tracking the job applicants and getting them hired, but this job is very particular. I know that generally large corporations hire corporate HR recruiters for their assistance in coordinating the recruitment of the whole company. So being a HR manager I will work as headhunters or for other recruiting agencies. I will put my effort in filling position within organization in which we are hired. The HR recruiters source candidates as well as develop a personal business network, I will also design and implement recruiting strategies for our organization using different recruiting software.

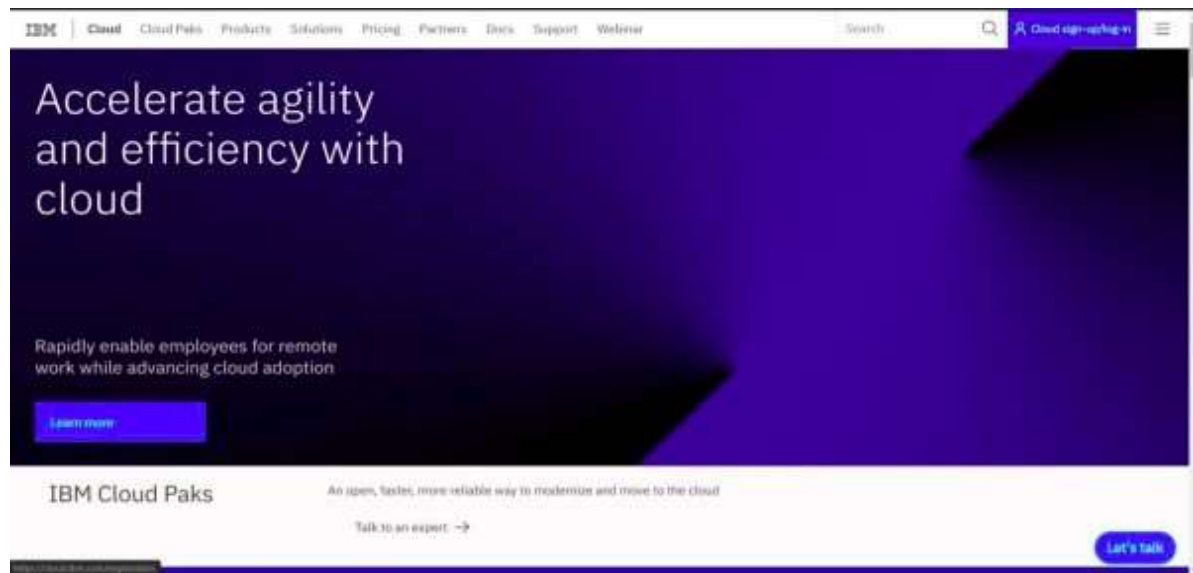
5. IMPLEMENTATION AND RESULT

5.1. INTRODUCTION:

The first thing you'll need to do is create an instance of the Watson Conversation service. This is where you'll build your chat-bot. The service features a friendly web UI for building the chat-bot and a test panel that lets you see how your chat-bot handles various user inputs.

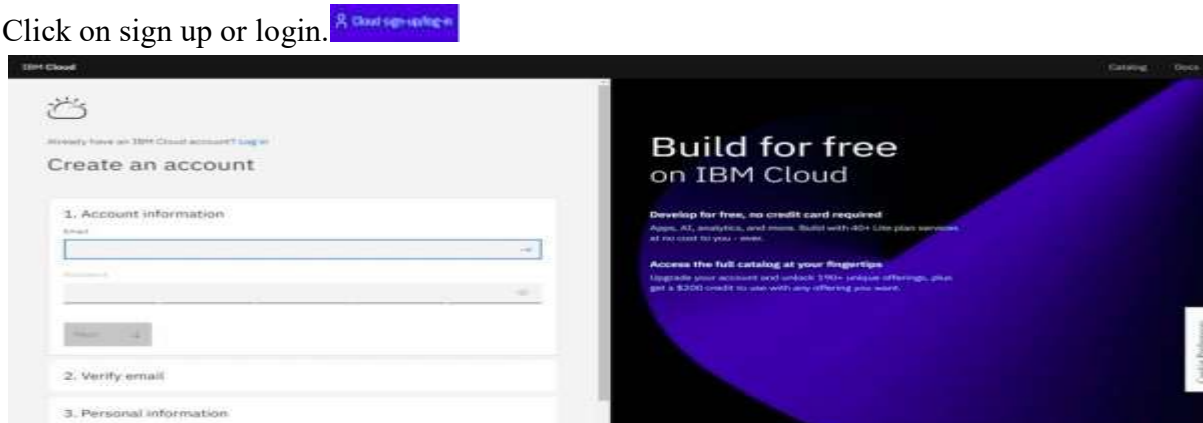
To get started, go to the IBM Cloud catalog:

1. Create IBM Cloud Services To Create IBM Cloud, go to <https://www.ibm.com/cloud>



Screen 1: IBM Cloud page

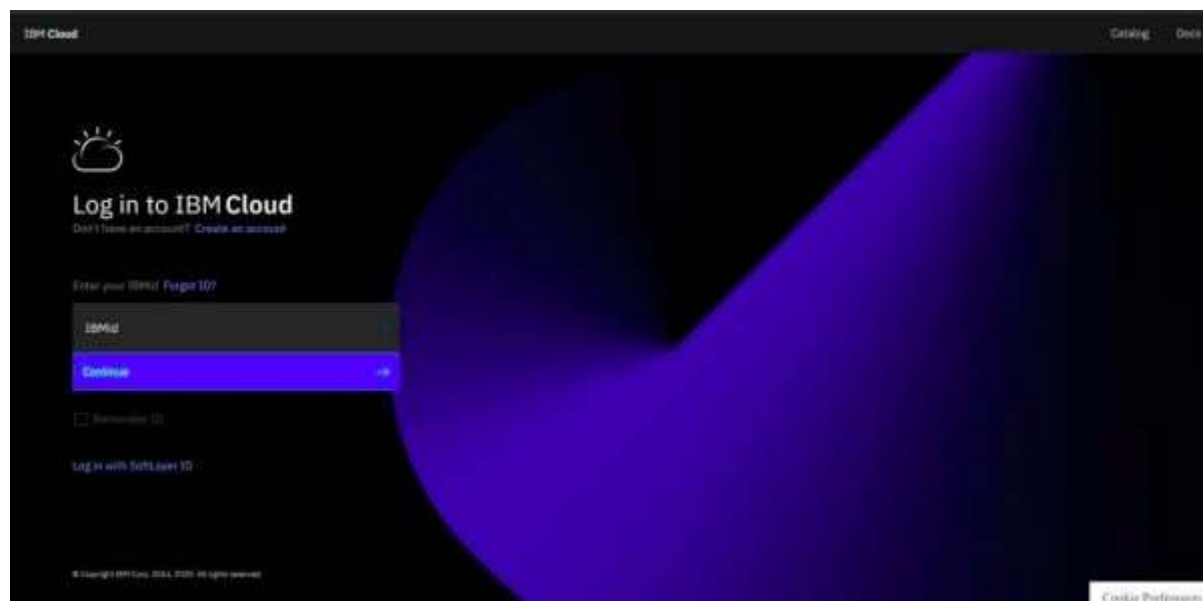
Click on sign up or login.



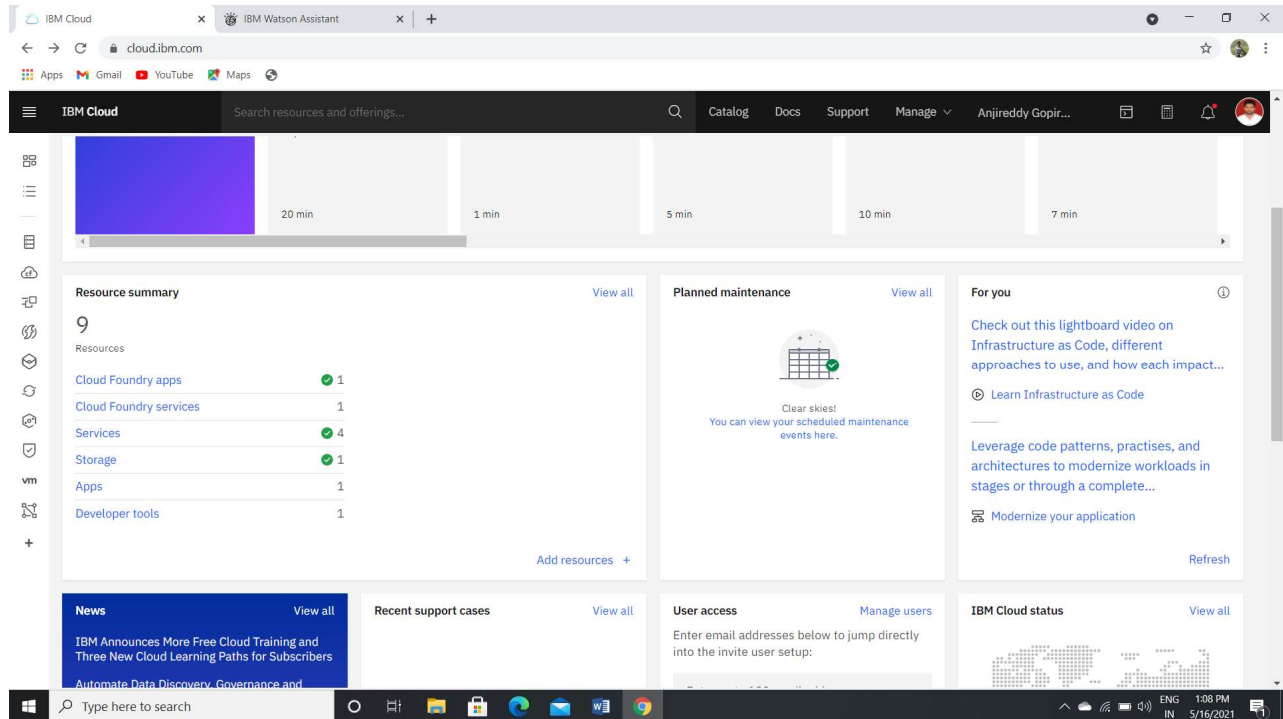
Screen 2:-IBM Login page

For Cloud Sign-Up: Follow the steps on the screen and fill in all the required details to create a new cloud account.

For Cloud Log In: Click on [Already have an IBM Cloud account? Log in](#) and fill your credentials to Log in to your cloud account.



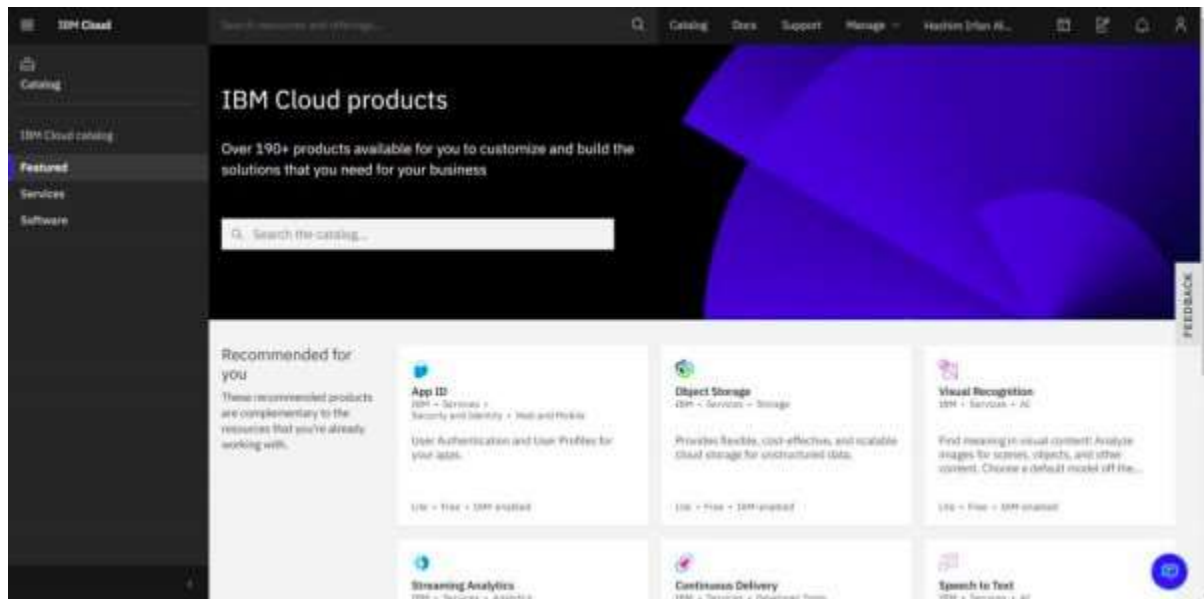
After Logging in, you can see the IBM Cloud Dashboard.



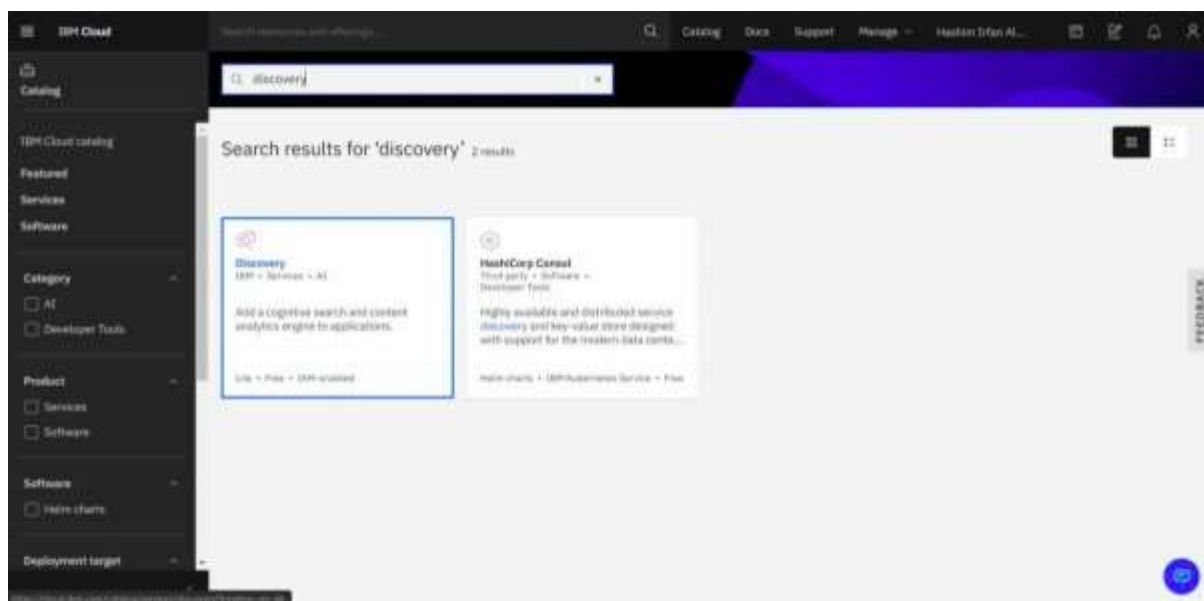
To Create any Resource (Services/Apps/etc), click on

Create resource +

Screen 3: IBM Resource page



Using the search box, we can find the service we want. For this project, we need to Create the following services: 1. Watson Discovery 2. Watson Assistant 1.To create a Watson Discovery Service, search for Discovery in the search box.



Click on

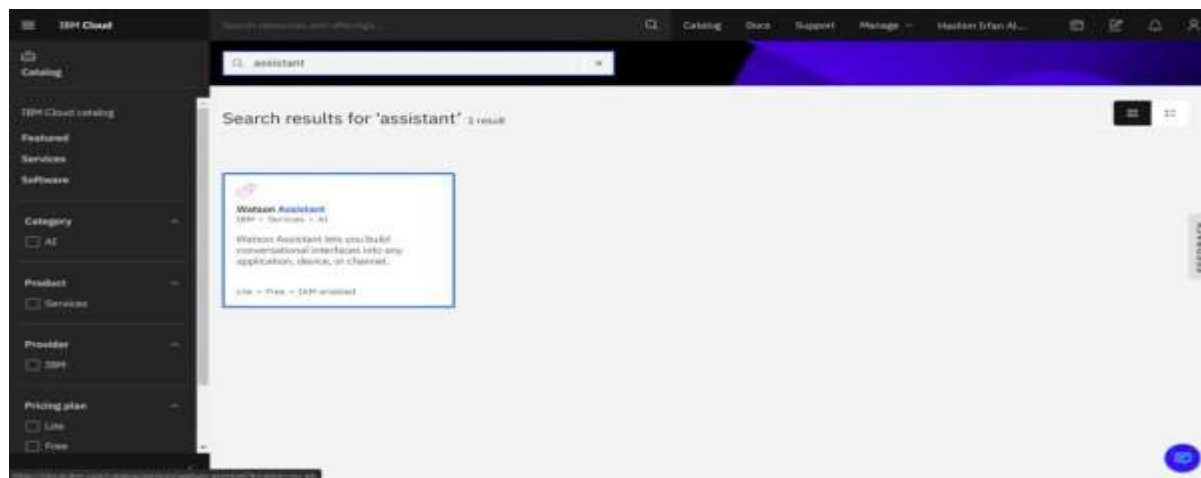
Screen 4: IBM Catalog page



Screen 5: IBM Cloud Discovery page

Select a region, select a plan, configure your service (Service name, etc) and click Create. Your Watson Discovery service is created successfully. (If you are on Lite Plan, you can have only one instance per service).

2. To create a Watson Assistant Service, search for Assistant in the search box



Click on





Screen 6: IBM Cloud Watson Assistant page

Select a region, select a plan, configure your service (Service name, etc) and click Create. Your Watson Assistant service is created successfully. (If you are on Lite Plan, you can have only one instance per service). To check whether you have correctly configured the services, go back to the IBM Dashboard and click on View All from the Resource Summary Tab.

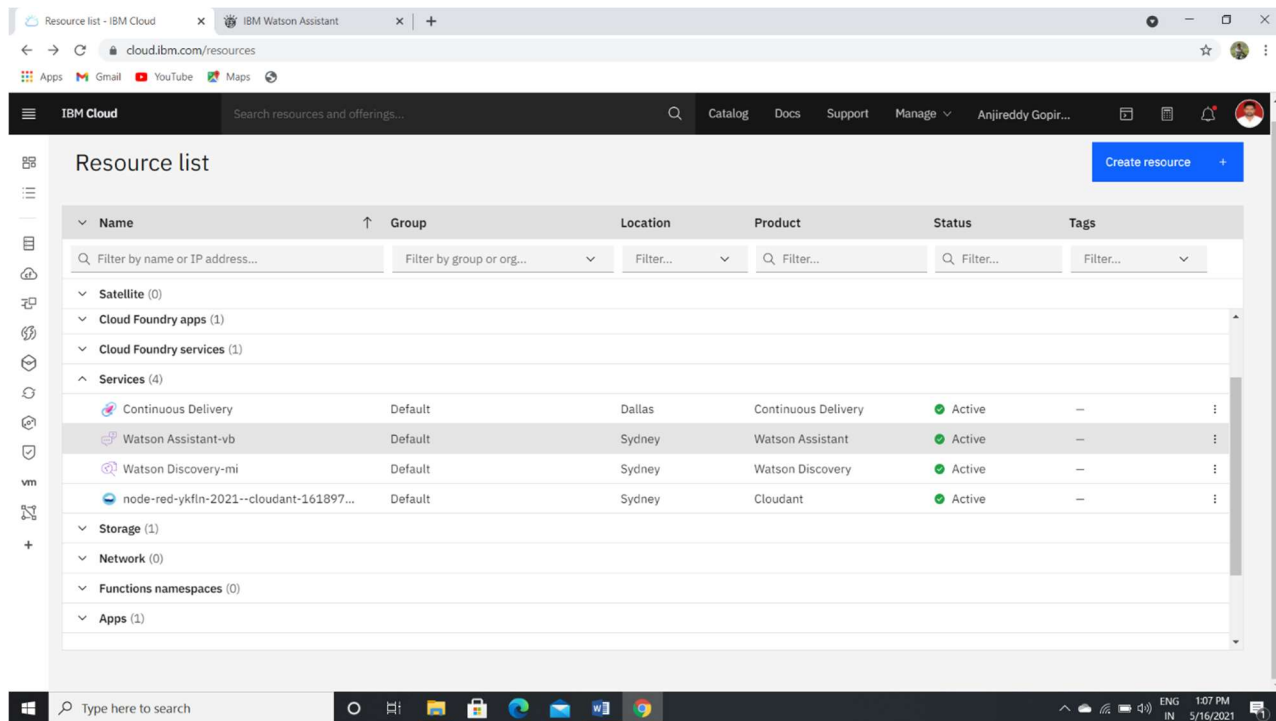
Resource summary

9

Resources

Cloud Foundry apps	✓ 1
Cloud Foundry services	1
Services	✓ 4
Storage	✓ 1
Apps	1
Developer tools	1

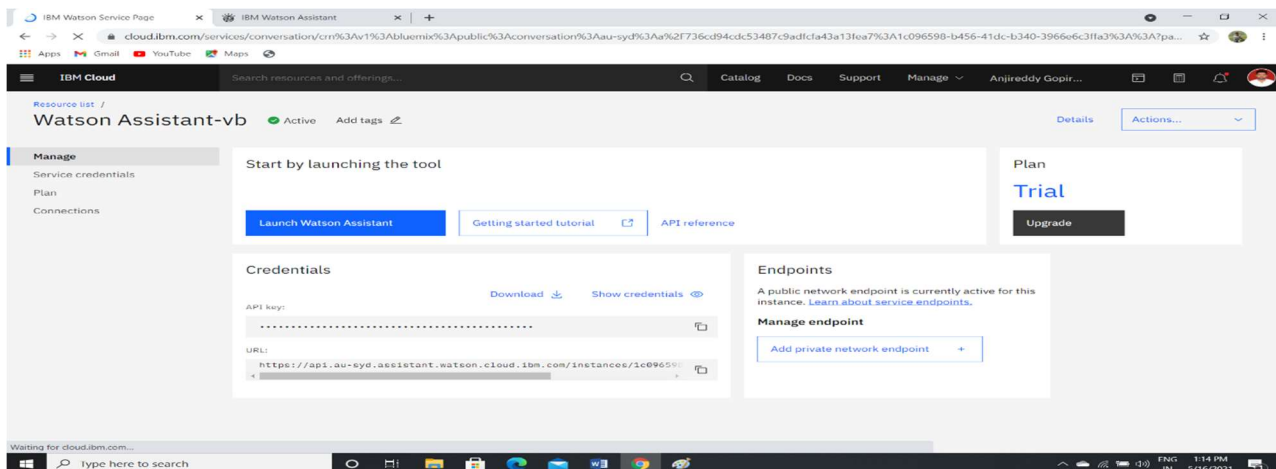
All of your existing Resource list will be shown here, click on Services to unveil the list of services you have.



Screen 7: Resource list

Here we can find that the status of Watson Discovery and Watson Assistant as Active which means we have configured the services correctly.

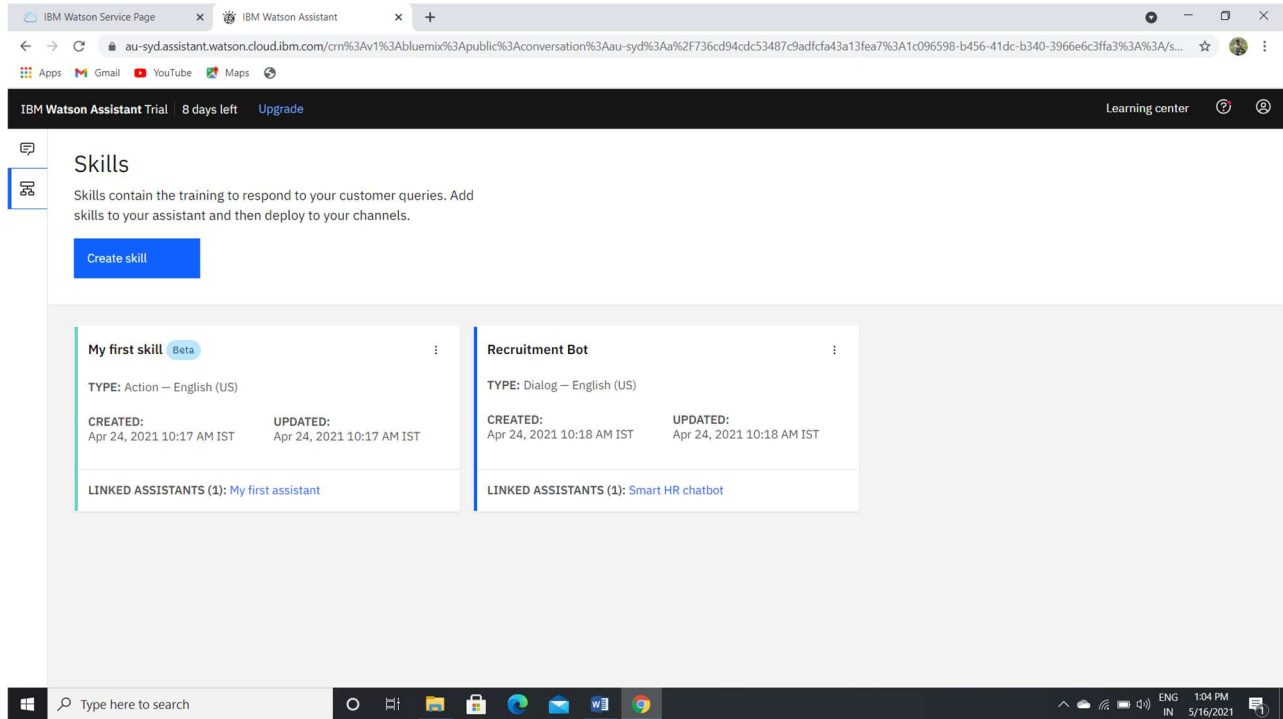
3. Configure Watson Assistant - Go back to the IBM Dashboard from the resource list screen. Click to open Watson Assistant service.



Click on

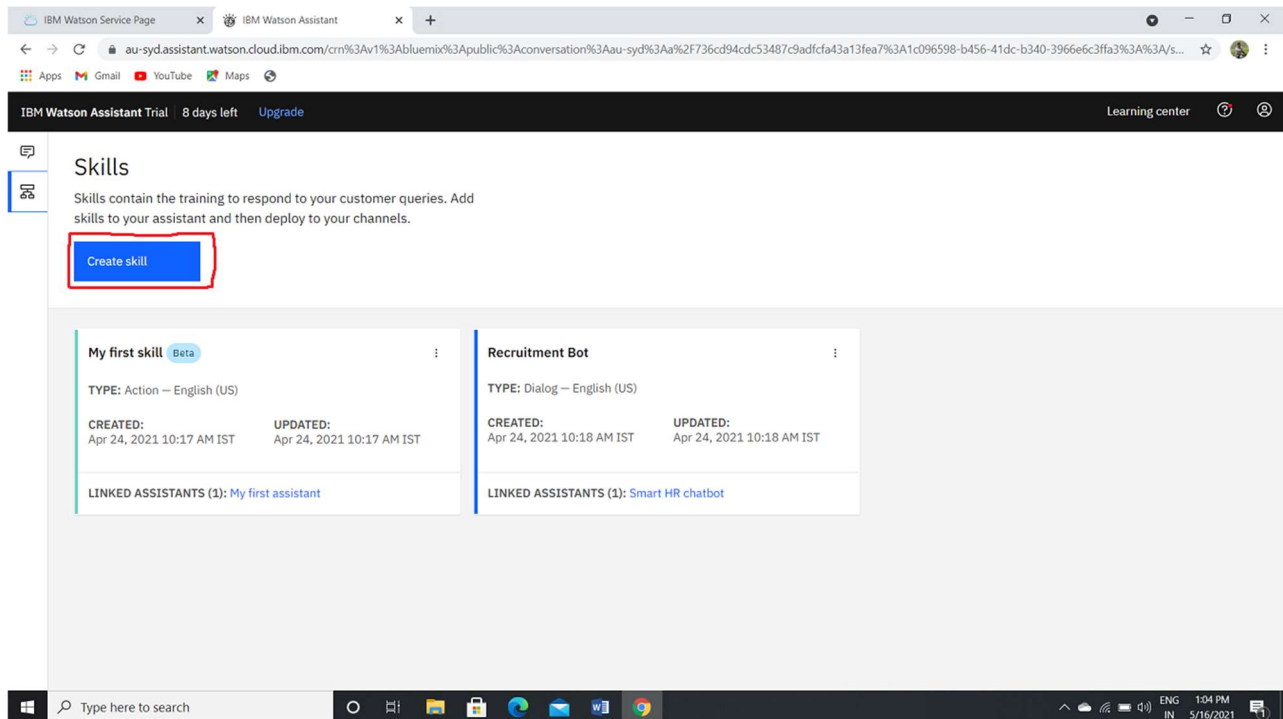
Launch Watson Assistant

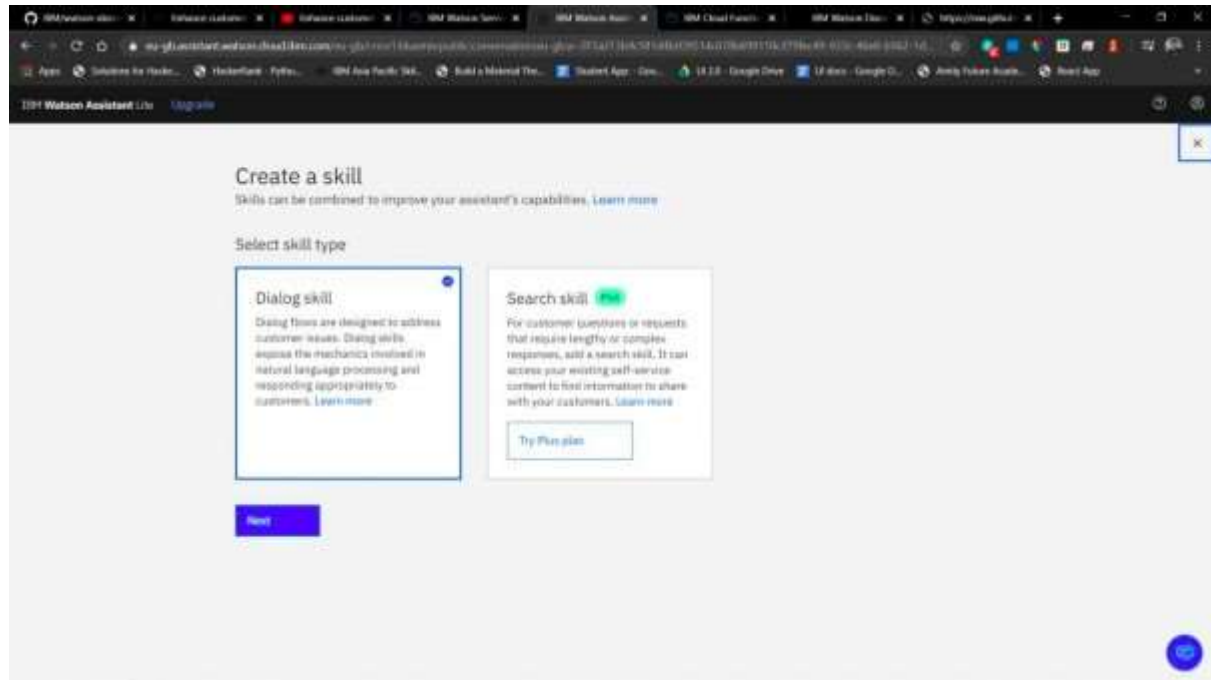
Screen 8: IBM Cloud Launch Watson Assistant page



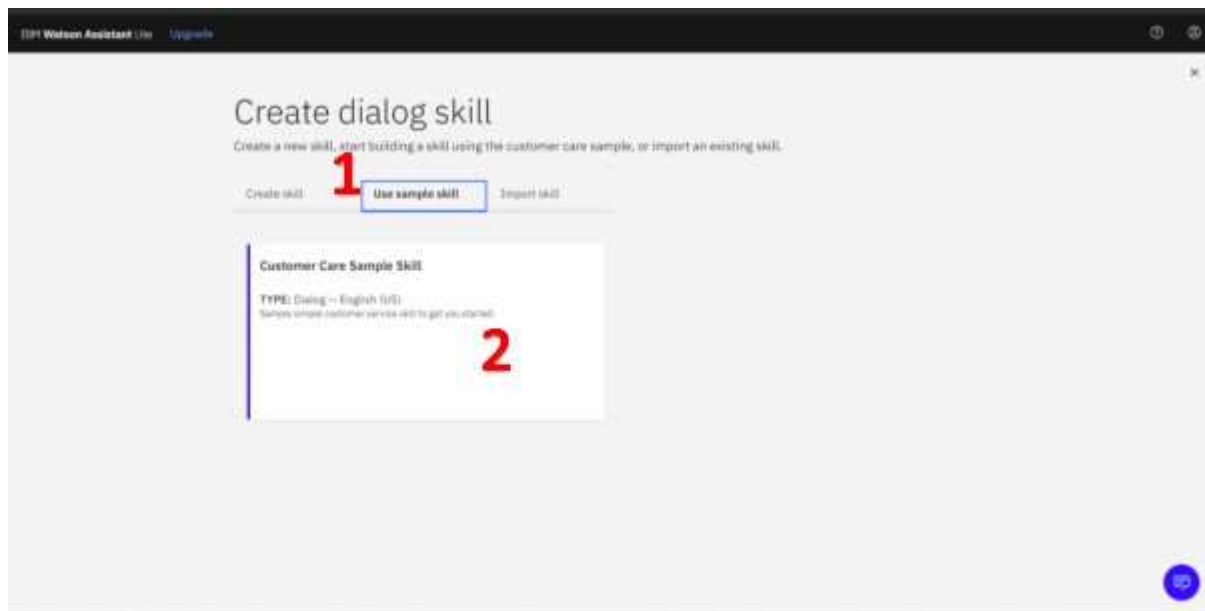
Screen 9: IBM Cloud Skill page

Click on the skills tab. Click Create Skill

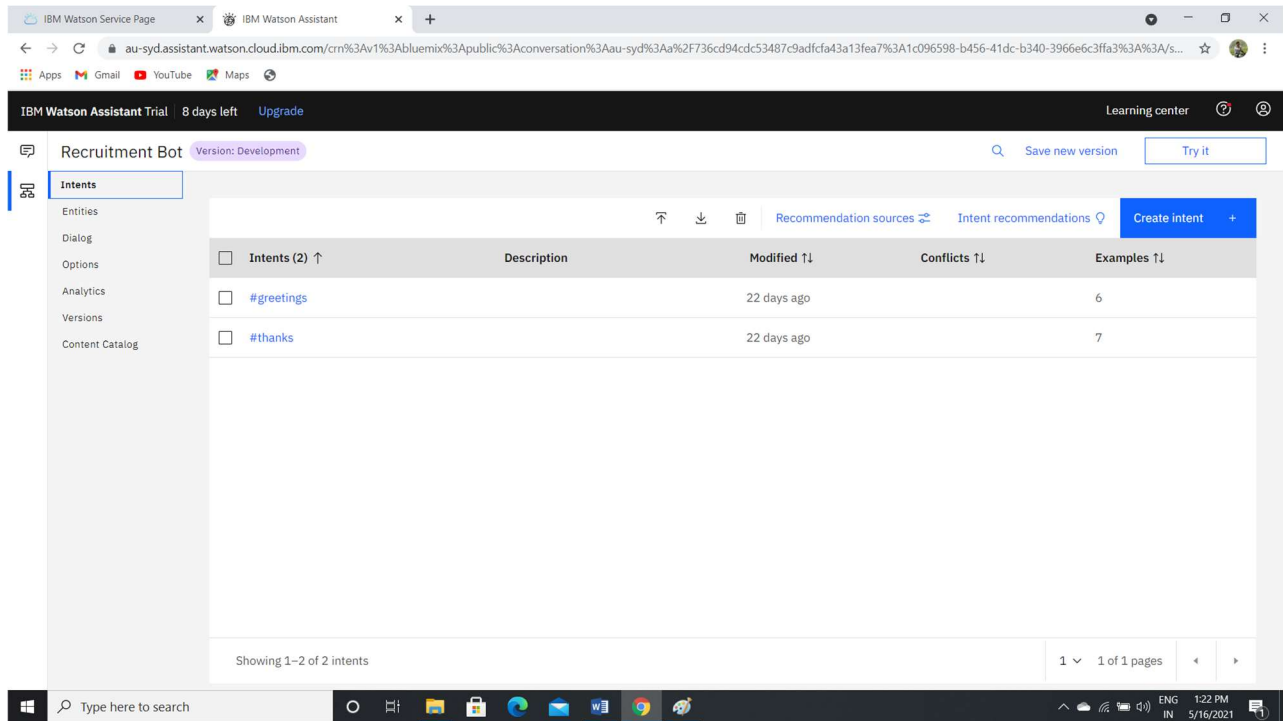




Select Dialog Skill Card and Click next.

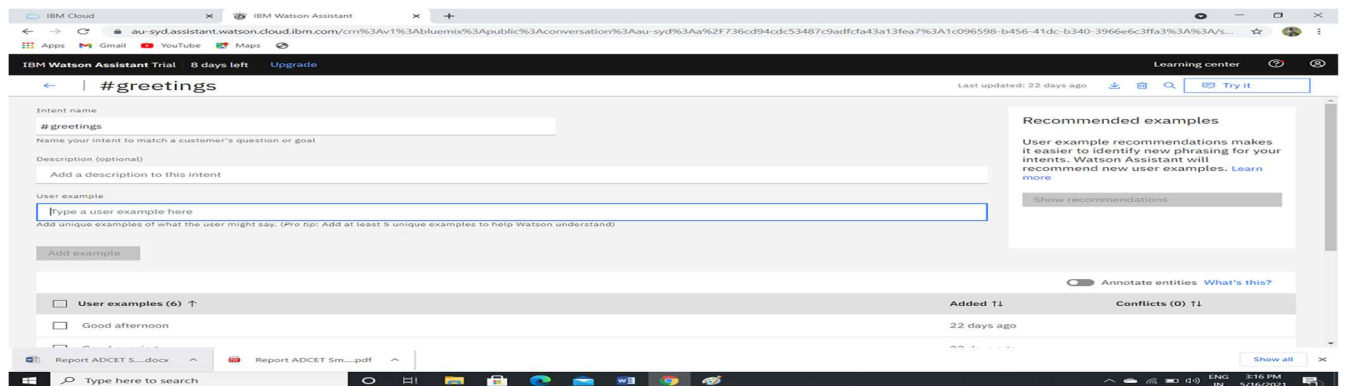


Select Use Sample Skill [1] and select Customer Care Sample Skill [2]. This dialog skill contains all of the nodes needed to have a typical call center conversation with a user.



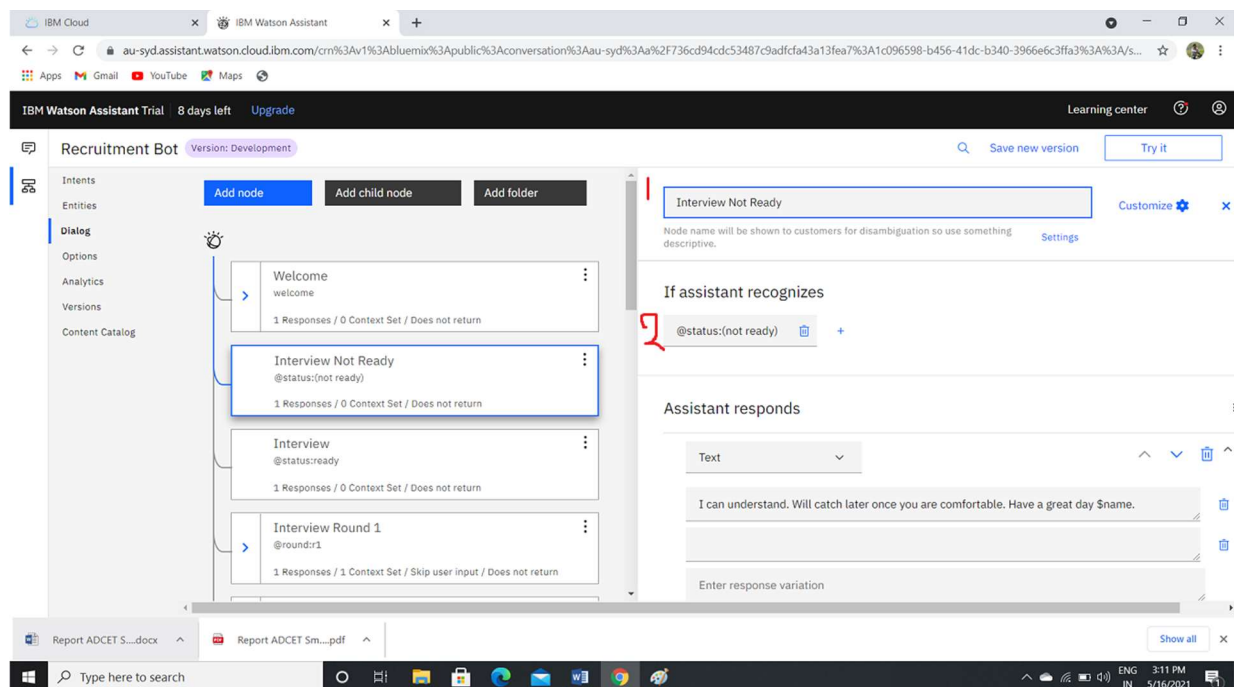
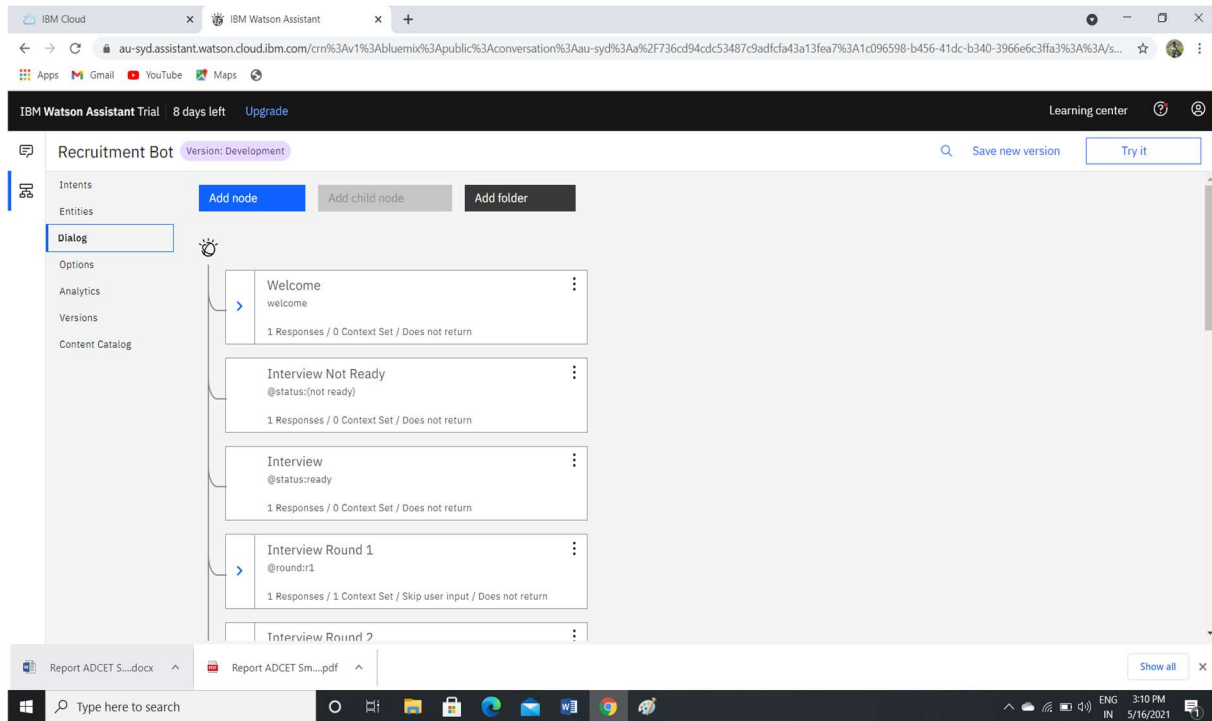
As the default HR Recruiter dialog does not have a way to deal with any questions involving outside resources, so we will need to add new intent. Create a new intent that can detect when the user is asking about operating the Ecobee thermostat.

From the HR Recruiter Skill panel, select the Intents tab. Click the Create intent button. Name the intent "#greetings", and at a minimum, enter the following example questions to be associated



with it.

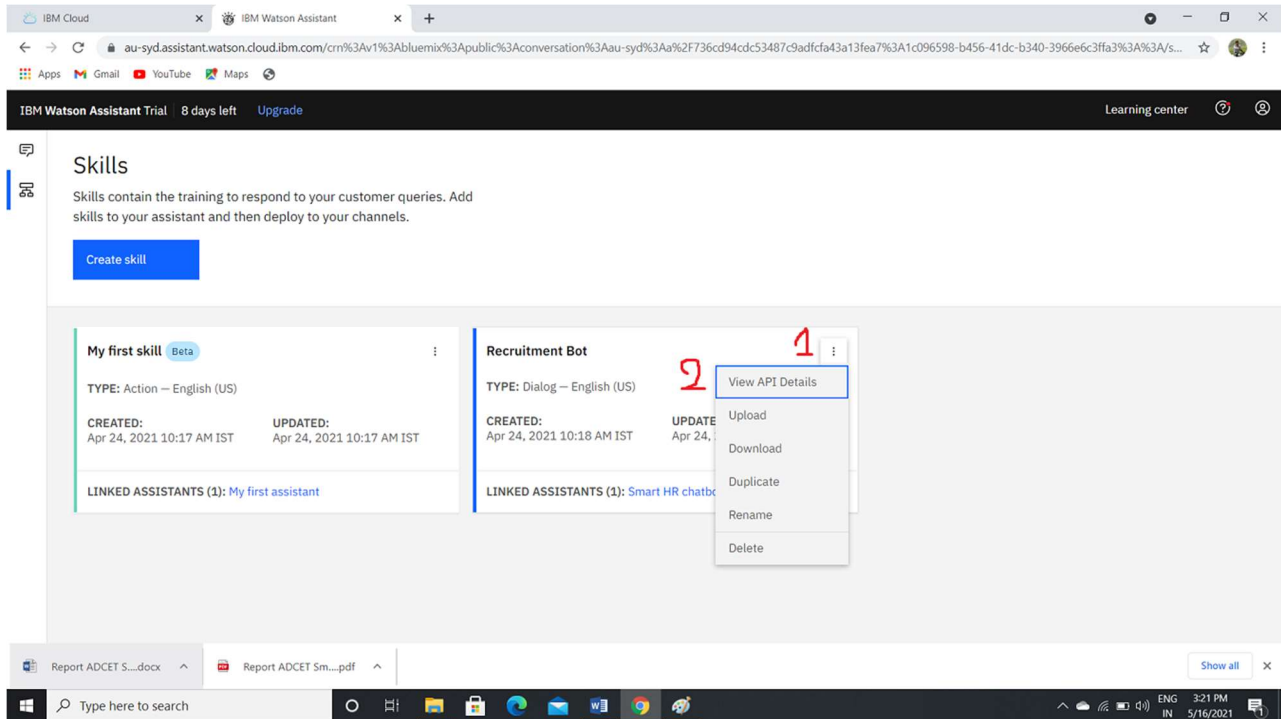
Go back to the previous page after doing this, then click on Dialog Tab and add a node below "What can I do node".



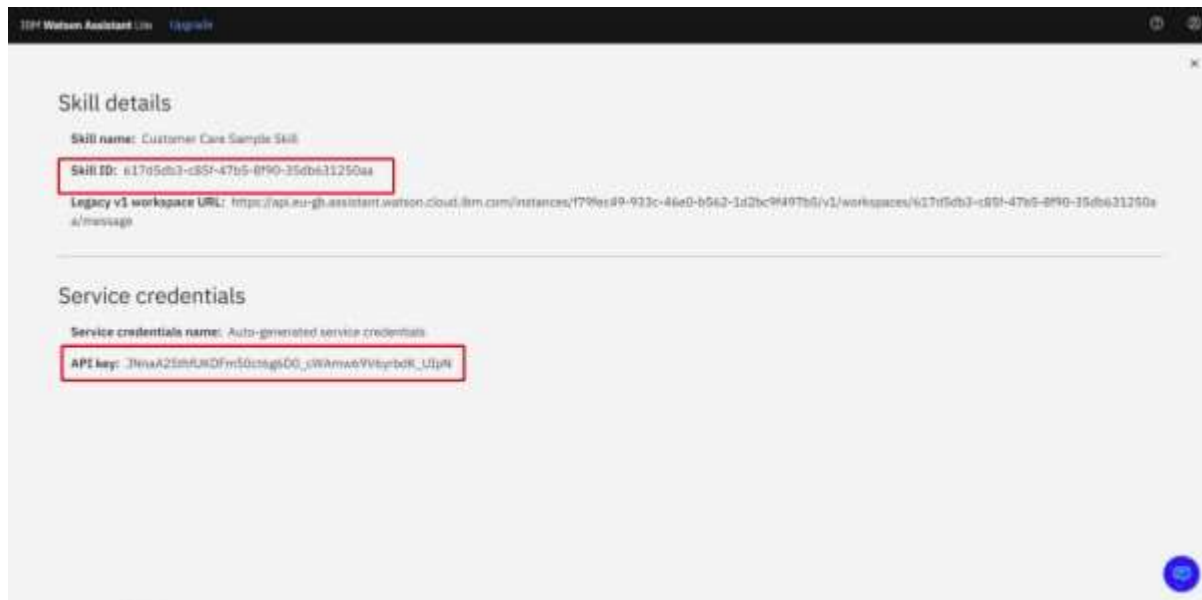
Name the node "Ask Interview information" [1] and assign it our new intent #Interview [2]. This means that if Watson Assistant recognizes a user input such as "how do I set the time?", it will direct the conversation to this node.

For upcoming steps, you will need to provide some credentials to access your assistant so to store credentials for future use follow these steps below. Go back to the skills tab,

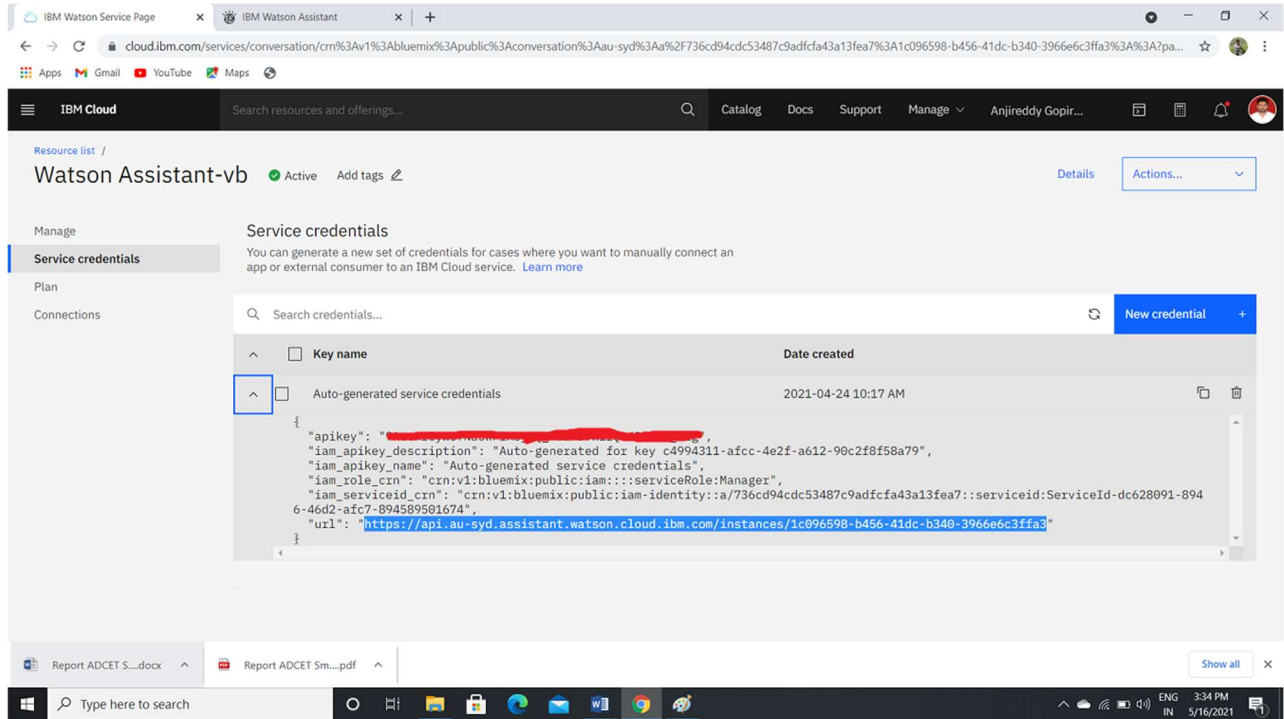
Click [1] and then [2]



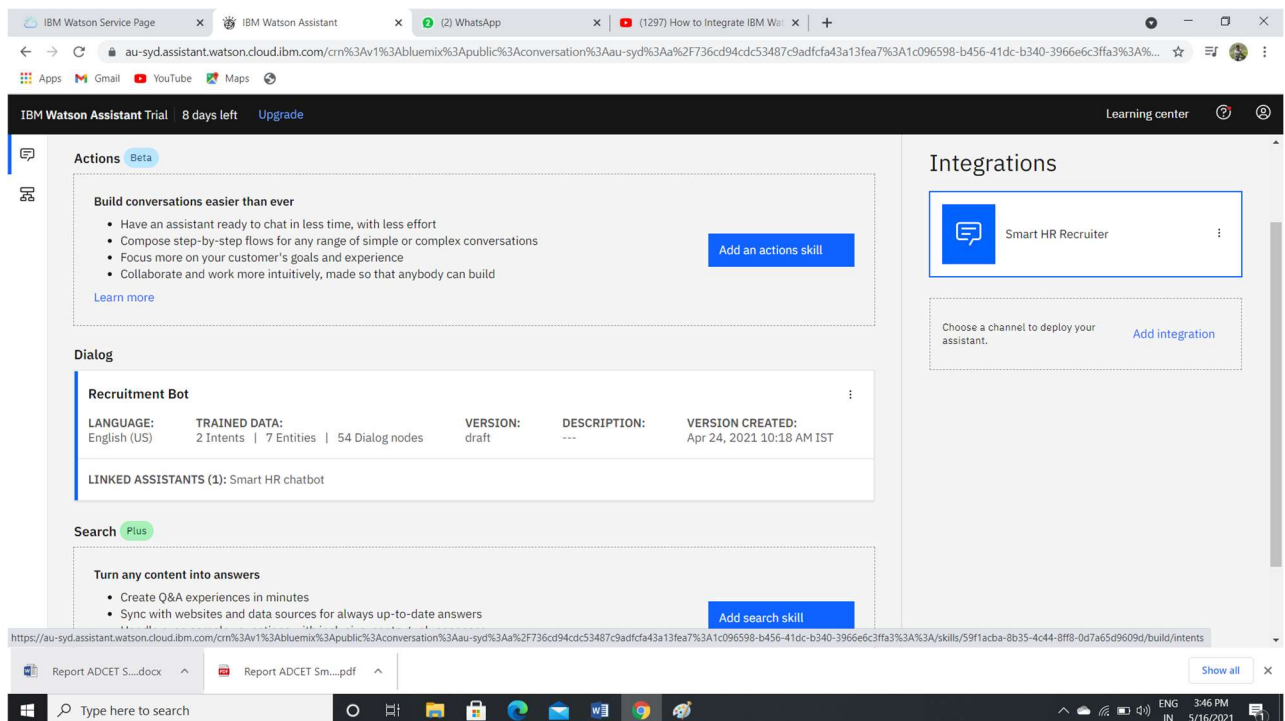
The Skill ID and API Key is to be noted.



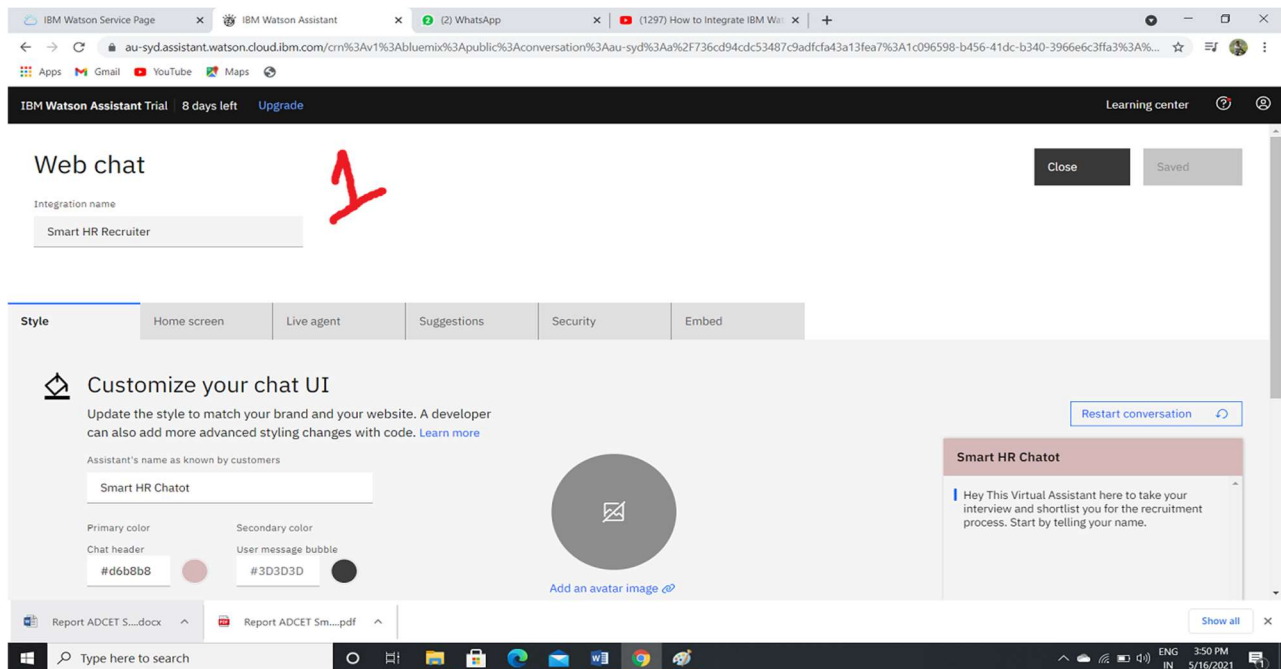
Go Back to the Watson Assistant Resource List, Select Service Credentials [1] and make note of the URL.APIKEY can be found here too.



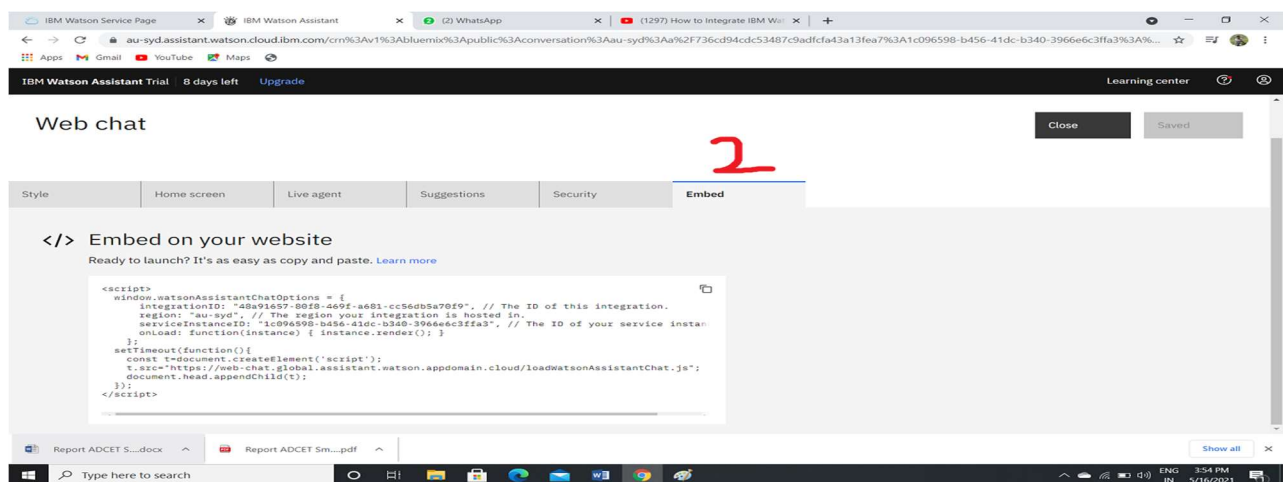
4. Click on Create Assistant blue button.



From the Integrations section, click the Web Chat tile. Optional: Change the Web Chat integration name from Web Chat to something more descriptive.



Click on Create [2].

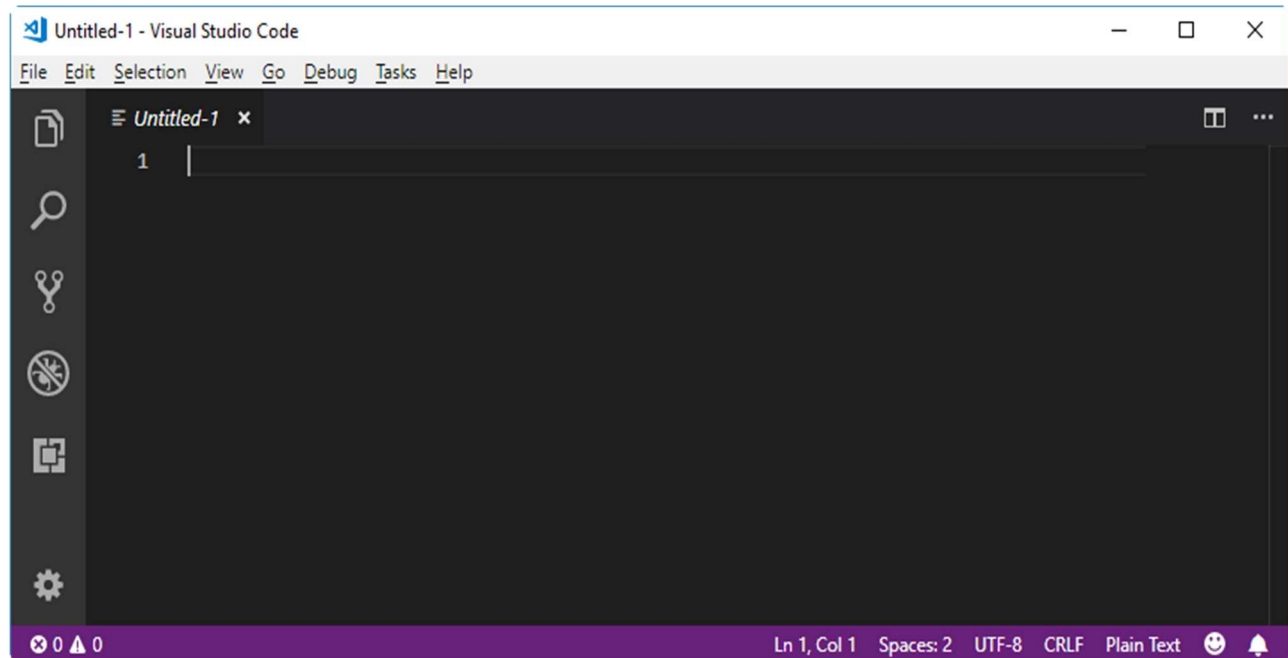


Click Create to generate the script. A code snippet is created and added to the page that contains an HTML script element. The script tag calls JavaScript code that is hosted on an IBM site. Optional: Customize the chat. You can make the following changes: Public assistant name. Name by which the assistant is known to users. This name is displayed in the header of the chat window. The name can be up to 18 characters in length. Primary color. Sets the color of the Web Chat header. Secondary color. Sets the color of the user input message bubble. Accent color. Sets the color of interactive elements, including: Style changes you make are immediately applied to the preview that is shown on the page, so you can see how your choices impact the style of the chat UI.

7. Open the HTML source for a web page on your website where you want the chat window to be displayed. Paste the code snippet into the header of your page. If your website is in Visual studio then follow my steps, use the plugin I have used and integrate the chatbot without dealing with the code. For web development, you need two programs: an editor to create the files for the website and a browser (for example Edge, Firefox, Safari, or Chrome) to view and test your website.

Editor:

For creating web pages, a normal text editor would be sufficient. But there are editors that greatly simplify your work as a programmer. Therefore, I recommend that you use a modern code editor.



My current favorite among the many editors is Visual Studio Code (free). You may use an editor of your choice but I will occasionally refer to some functions of Visual Studio Code (VS Code). Good alternatives are Atom or Brackets.


Go ahead and install an editor. If you do not know which one, use Visual Studio Code for now.

Editor Extensions:

While we're at it we'll an extension to VS Code that will give superpowers to our editor: Live Server.

1. Open Visual Studio Code.
2. Open the menu "Extensions".
3. Type "Live Server" into the search field and install the extension.

4. Reload Visual Studio Code to activate the extension.

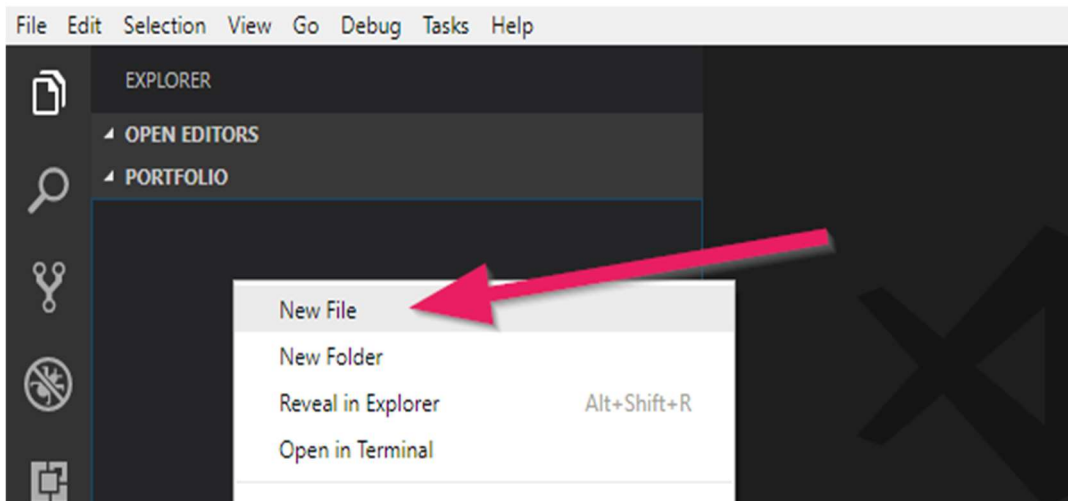
Browser: Our website should, of course, run in all major browsers (Edge, Firefox, Chrome and Safari). However, for web development I recommend you use Chrome. Chrome includes very useful tools for developers which you will use often.  chrome

If you do not have Chrome on your computer, you can install it [here](#).

Creating an HTML Document

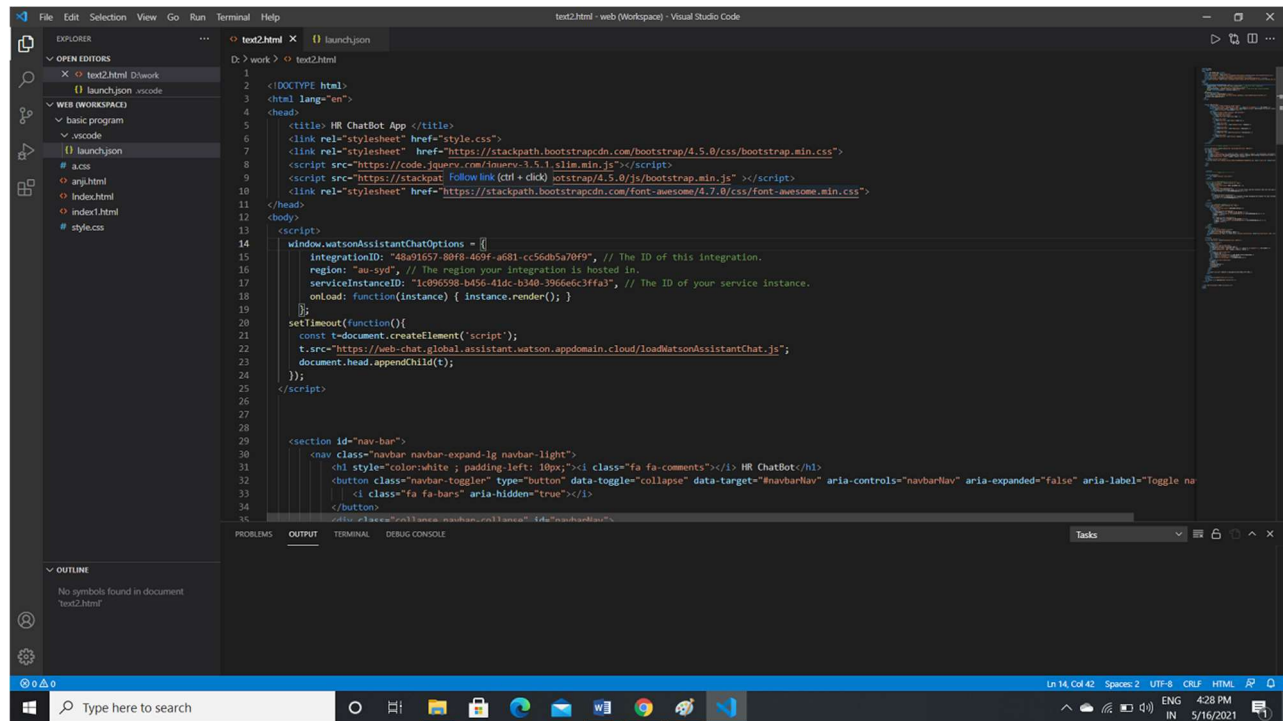
Equipped with editor and browser, let's create the first HTML document for our website.

1. Create a folder on your computer for your project. Name the folder Portfolio (or anything you want).
2. Open VS Code.
3. Open the **File** menu and select **Open Folder** Browse for the folder you created and open it
4. Right-click below the folder and select **New File**. Name the file `index.html`.



Viewing and Refreshing:

Now you can fill the document with content. Type the following lines in your HTML.



To view the page, we'll use the **Live Server** extension that we installed above. Right-click on your **index.html** (the file below the Portfolio folder and not the one above under "Open Editors"). Then click **Run option and Add configuration**. A browser window should open up and show your first website. Now, whenever you save any changes they are automatically updated by the live server.

5.2. EXPLANATION OF KEY FUNCTIONS:

Chat-bots are an increasingly important paradigm for HR. Instead of having to create complex designs and time-consuming user interfaces, chat-bots allow the HR function to integrate process workflows, FAQs, documentation, feedback and ticketing systems into a single integrated interface. With advances in AI technology and the creation of better AI tools, it is increasingly becoming possible to integrate even more HR functionality into the chat-bot paradigm.

Currently, there are two types of chat-bots:

1. **Specialist chat-bots:** These bots are built specifically to achieve a particular purpose and can only accept specific inputs.

2. Generalist chat-bots: These bots are built to be able to handle all user inputs and wrap a very large amount of diverse functionality into a single user interface.

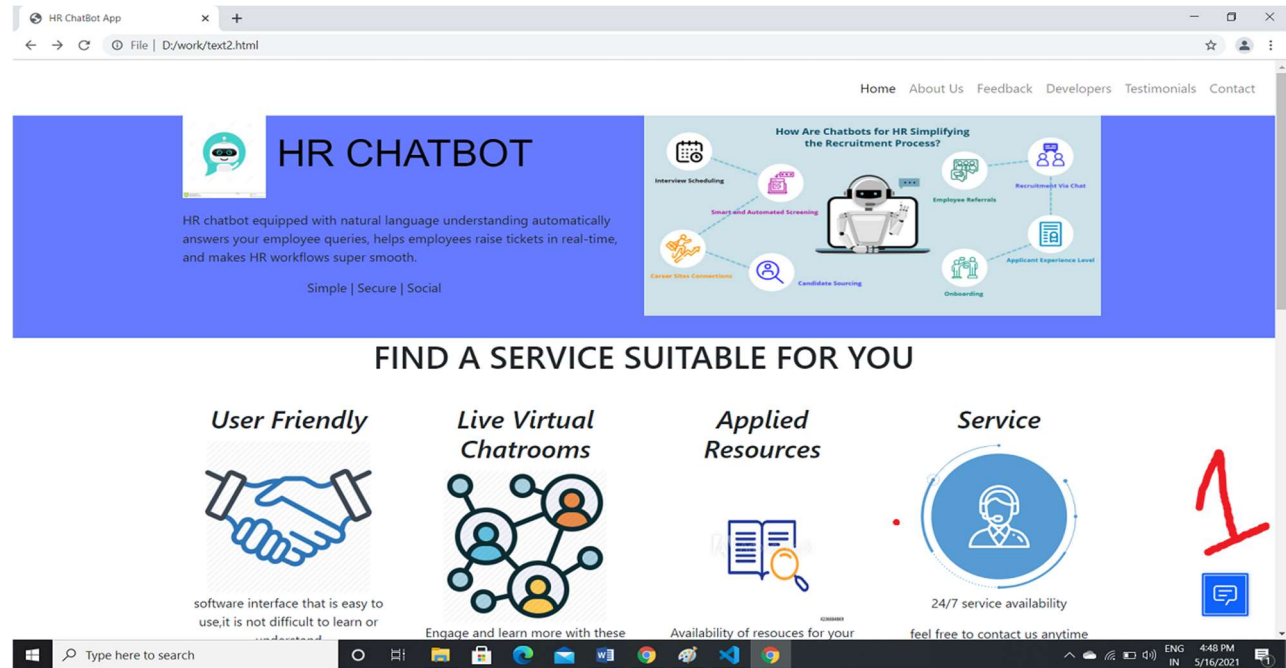
Some of the key functions differences between these types of chat-bots are:

Parameter	Specialist	Generalist
UI/UX	Combination of text and GUI	Purely text based
Interpretation	Pattern-matching and static programming	NLP and AI
Action	Defined workflows triggered by user inputs	Workflow created by user input, can vary depending on input
Integration	Closely integrated with existing tech stack	Layered on top of existing tech stack with defined interfaces
Client interface	Requires specialized interfaces capable of handling GUI requirements	Can integrate with any chat application
Complexity	Simple to program and integrate	Difficult to program and integrate

5.3. METHOD OF IMPLEMENTATION:

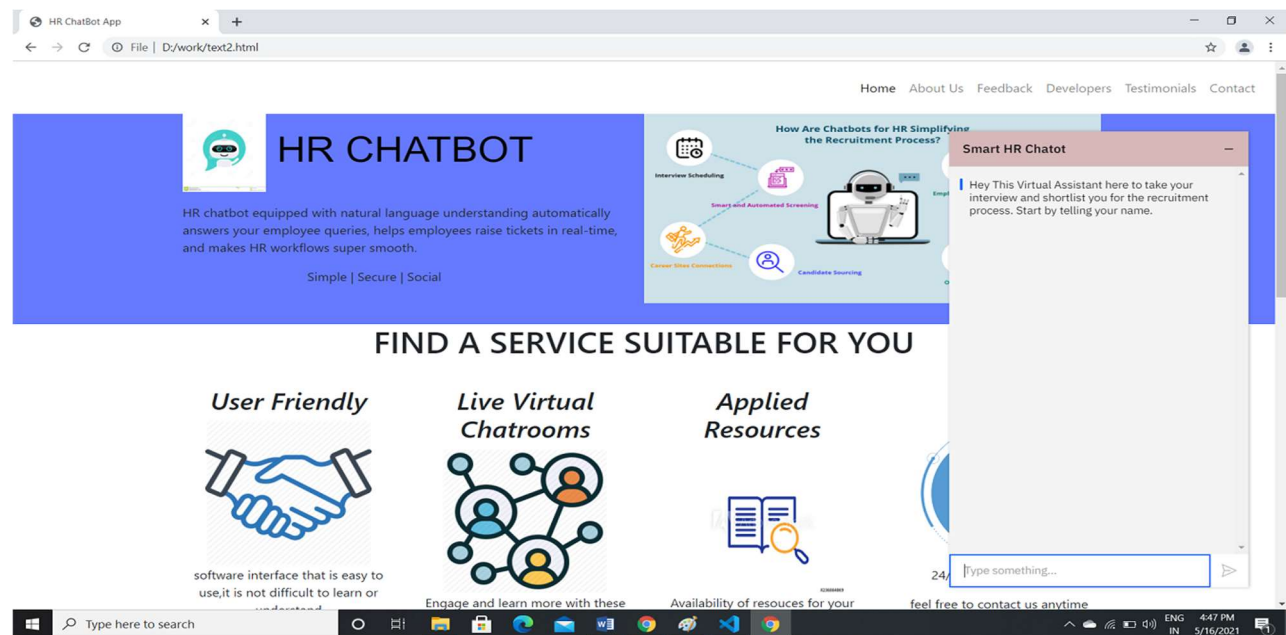
5.3.1. OUTPUT SCREENS:

Finally our chat-bot web page is displayed in web browser



Output Screen-1: HR Chat-bot web page

5.1. Click [1]-Open chat-bot



Output Screen-2: HR Chat-bot Page

5.3.2. RESULT ANALYSIS:

In result analysis HR Recruiter is Automate Customer Support, Lead Generation & Qualification today. Request a Free Demo Now! Improve your customers experience with the help of chat-bot in AI powered chat-bots. Customer Service. End to End Service. Segmentation. Powerful Bots. 24x7 Support. Free Demo. Services: Insurance, Banking, Education, Ecommerce, Media, Real Estate, Human Resource

6. TESTING AND VALIDATION:

6.1. INTRODUCTION:

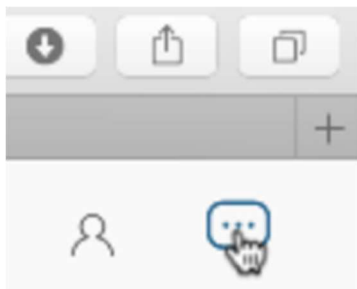
Chat-bots are a great way to interact with users. When you combine the natural language understanding and conversational capabilities of the Watson platform, you can build sophisticated chat-bots.

Try IBM Cloud for free

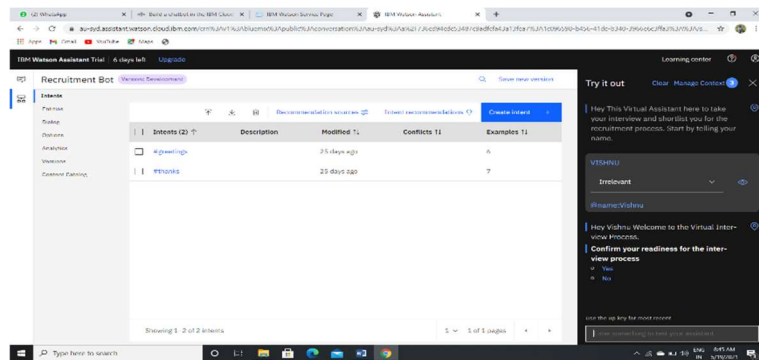
If you don't have an IBM Cloud account and you want to follow along with the exercises here, sign up for an IBM Cloud Lite account. Your free account never expires, and you get 256 MB of Cloud Foundry runtime memory, plus 2 GB with Kubernetes Clusters. Get all the details and find out how to get started. And if you're new to IBM Cloud, check out the IBM Cloud Essentials course. Here's what you'll do in this tutorial: Create an instance of the Watson Assistant service. Learn the basics of chat-bots, including intents, entities, and dialogs. Create a simple chat-bot. Use more advanced techniques in your chat-bot. Deploy your chat-bot as part of a stand-alone application.

6.2: DESIGN OF TEST CASES SCENARIOS:

Enough with setting things up already. Let's see how your chat-bot works. Click the **Conversation** icon in the upper right corner to start the testing dialog.



You can play the role of the pharaoh and see how your chat-bot responds. For example, the following image shows what happens when you type “let’s have a feast!”



Notice that the interface makes it clear what Watson recognized in the input. It correctly identified the king's intent as #have-a-feast. Also, notice the drop-down arrow next to the identified intent. If Watson got it wrong, you can click the arrow and select the correct intent. Watson learns from the correction, so it's a good idea to do this whenever Watson misses the mark. Because the king did not specify what kind of feast he wants, your chat-bot responds with a follow-up question. Here's an example of what happens when the king makes a complete request. Watson correctly identified the intent, but it also identified the @feast_type. The interface highlights the text that Watson recognized in the input and the conclusion it reached based on that input. Because you defined "food truck rodeo" as a synonym for "food chariot rodeo," Watson understands what the king meant. The response from the dialog includes the value of the entity as the original value, not the synonym: "I will make the plans for a *food chariot rodeo*..." is the response, despite the fact that the king typed "food truck rodeo" instead.

6.4. VALIDATION:

Early in the development process, build validation gates. These gates can be applied at various stages (Code, Deploy, etc.).

IBM Cloud Pak for Watson AIOps uses NLP modeling to scan pre-deployment code for compliance of security policies to build baselines and thresholds for change risk scoring.

6.5. CONCLUSION:

This application is a basic chat-bot for Smart HR recruiter information. It provides basic information like description, symptoms, prevention, and all basic facts

APPENDIX

Skill- Recruitment-Bot. json:

```
intents": [  
  {  
    "intent": "greetings",  
    "examples": [  
      {  
        "text": "Hi"  
      },  
      {  
        "text": "Hey"  
      },  
      {  
        "text": "Good morning"  
      },  
      {  
        "text": "Good afternoon"  
      },  
      {  
        "text": "Good evening"  
      },  
      {  
        "text": "Hola"  
      }  
    ],  
    "description": ""  
  },  
  {  
    "intent": "thanks",  
    "examples": [  
      {  
        "text": "Thanks"      }  
    ]  
  }  
]
```

```

    },
    {
      "text": "Thank you"
    },
    {
      "text": "See you soon"
    },
    {
      "text": "Will be back again"
    },
    {
      "text": "Good bye"
    },
    {
      "text": "bye"
    },
    {
      "
    {
      "type": "synonyms",
      "value": "Vishnu",
      "synonyms": []
    },
    {
      "type": "synonyms",
      "value": "Madhav",
      "synonyms": []
    },
    {
      "type": "synonyms",
      "value": "Sakshi",
      "synonyms": []
    }
  ]
}

```



```

},
{
  "type": "synonyms",
  "value": "Abhi",
  "synonyms": []
},
{
  "type": "synonyms",
  "value": "Kavya",
  "synonyms": []
},
{
  "type": "synonyms",
  "value": "Harsh",
  "synonyms": []
},
{
  "type": "synonyms",
  "value": "Rahul",
  "synonyms": []
},
{
  "type": "synonyms",
  "value": "Nidhi",
  "synonyms": []
},
{
  "type": "synonyms",
  "value": "Pratyusha",
  "synonyms": []
},
{

```

```

    "type": "synonyms",
    "value": "Lalitha",
    "synonyms": []
  },
  {
    "type": "synonyms",
    "value": "Gayatri",
    "synonyms": []
  },
  {
    "type": "synonyms",
    "value": "Hemant",
    "synonyms": []
  }
],
"fuzzy_match": true
},
{
  "entity": "thanks",
  "values": [
    {
      "type": "synonyms",
      "value": "thank you",
      "synonyms": []
    }
  ]
}

```

Test.html:

```

<!DOCTYPE html>
<html lang="en">
<head>
  <title> HR ChatBot App </title>
  <link rel="stylesheet" href="style.css">
  <link

```

rel="stylesheet"

```

    href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css">
<script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>
<script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js" ></script>
<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-
awesome.min.css">
</head>
<body>
<script>
window.watsonAssistantChatOptions = {
  integrationID: "48a91657-80f8-469f-a681-cc56db5a70f9", // The ID of this integration.
  region: "au-syd", // The region your integration is hosted in.
  serviceInstanceID: "1c096598-b456-41dc-b340-3966e6c3ffa3", // The ID of your service
  instance.
  onLoad: function(instance) { instance.render(); }
};
setTimeout(function(){
  const t=document.createElement('script');
  t.src="https://web-
chat.global.assistant.watson.appdomain.cloud/loadWatsonAssistantChat.js";
  document.head.appendChild(t);
});
</script>

<section id="nav-bar">
  <nav class="navbar navbar-expand-lg navbar-light">
    <h1 style="color:white ; padding-left: 10px;"><i class="fa fa-comments"></i> HR
    ChatBot</h1>
    <button class="navbar-toggler" type="button" data-toggle="collapse" data-
    target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle
    navigation">

```

```

        <i class="fa fa-bars" aria-hidden="true"></i>
    </button>
    <div class="collapse navbar-collapse" id="navbarNav">
        <ul class="navbar-nav ml-auto">
            <li class="nav-item active">
                <a class="nav-link" href="#top">Home </a>
            </li>
            <li class="nav-item">
                <a class="nav-link" href="#About">About Us</a>
            </li>
            <li class="nav-item">
                <a class="nav-link " href="Feedback.html" >Feedback</a>
            </li>
            <li class="nav-item">
                <a class="nav-link " href="#developer" >Developers</a>
            </li>
            <li class="nav-item">
                <a class="nav-link" href="#testimonials">Testimonials</a>
            </li>
            <li class="nav-item">
                <a class="nav-link" href="#footer">Contact</a>
            </li>
        </ul>
    </div>
</nav>
</section>

<!-------banner section----->

<section id="banner" style="padding-top: 0px;background-color: #667aff;">
    <div class="container">
        <div class="row">

```

```

<div class="col-md-6">
  <p class = "Promo-title"><font size="10" face = "arial" color = "black">  HR
CHATBOT</font></p>
  <p class="promo-title">HR chatbot equipped with natural language understanding
automatically answers your employee queries, helps employees raise tickets in real-time, and
makes HR workflows super smooth.</p>
  <p style="padding-left: 150px;">Simple | Secure | Social</p>
</div>

```

```

<div class="clo-md-6 text-center">
  

```

```

</div>

```

```

</div>

```

```

</div>

```

```

<div class="col-md-3">
  <h2 style="font-style: italic;">Service</h2>
  <a href="#footer"></a>
  <p>24/7 service availability</p>
  <p>feel free to contact us anytime</p>
</div>
</div>
</div>
</section>

```

</div>

<p>Careers</p>

</div>

</div>

<hr>

<p class="copyright">website is designed by Anjireddy & My Team</p>

</div>

</section>

<script src="js/smooth-scroll.js"></script>

<script>

var scroll = new SmoothScroll('a[href*="#"]');

</script>

<link rel="stylesheet" href="css/style2.css">

</body>

</html>

7. CONCLUSION

7.1. PROJECT CONCLUSION:

In recent times, a lot of companies are using chat-bots in recruitment for enhanced user experience. Artificial Intelligence, coupled with human expertise and supervision, can provide the best results. Hence, chat-bots have great potential when it comes to recruiting. Thus, I have developed a chat-bot using IBM Watson which uses the smart document understanding to fetch results from the file using Discovery service of IBM and gives returns with the section of the document containing the answer to the user's query. By doing the above procedure and all we successfully created AI Powered Recruitment Bot using Watson assistant and integration web app.

7.2. FUTURE SCOPE:

We can advise students how they can improve themselves. This is one of the future scope of this project. Chat-bots are already respected by the industry for providing a 24/7 service, being available after closing time and through holidays. The bot can also field questions from casual browsers people looking but not worth taking up your time. But when a query needs handling, most bots can pass them on to an estate agent to give greater detail. A good Chat-bot not only handles the customer, they can perform useful tasks like help schedule property viewing at convenient times for both parties, and making a good impression as part of the business. They provide a warm welcome, with as much chit-chat as needed, and then show properties by value, number of bedrooms or other criteria, all faster than a human, and just as quickly as a website, with more focused results. When building a bot, the agent or developer can add differentiation by adding an ability to add value to any query, showing local knowledge, highlighting news of boom areas, providing related information for school ratings.

8. REFERENCES

A. Reference

1. Abouserie, R. (1992) Statistical Methods for Educational and Psychological Research: Basic Concepts, Cardiff: UWCC.
2. Ackermann, K. F. (1986) 'A Contingency Model of HR Strategy- Empirical Research Findings Reconsidered', Management Forum, No. 6, pp.65-83.
3. Adams, G. R. and Schvaneveldt, J. D. (1991) Understanding Research Methods, London: Longman.
4. Adler, N. J. (1986) International Dimensions of Organizational Behavior, Boston: PWS Kent.
5. Adler, N. J., Doktor, R., and Redding, S. G. (1986) 'From the Atlantic to the Pacific Century: Cross-Cultural Management Reviewed', the Journal of Management, Vol. 12, No. 2, pp.295-318.
6. Adler, N. J. (1991) International Dimensions of Organizational Behavior, Cincinnati, Ohio: South-Western College Publishing.
7. Adler, N. J. (1997) International Dimensions of Organizational Behavior, Cincinnati, Ohio: South-Western College Publishing.