Microsoft Azure Chat Bot with LUIS (Cognitive Service)

CIS5850 – GROUP 2

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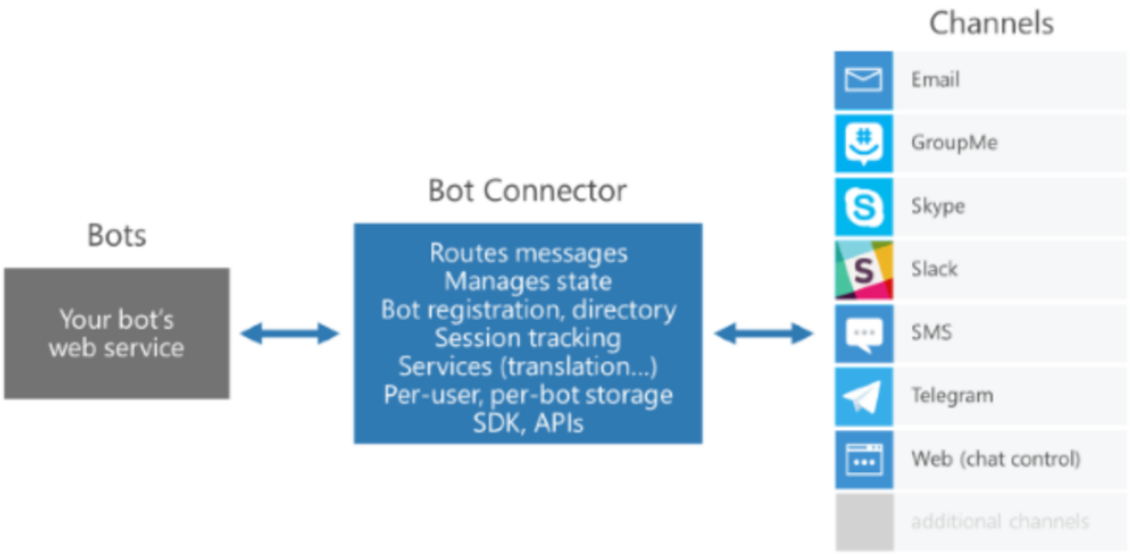
Introduction

Azure Bot Service is Microsoft's artificial intelligence (AI) chatbot offered as a service on the Azure cloud service marketplace.

It offers the ability to add intelligent agents that are capable of conversation without having to commit the resources to develop one's own AI. The service can be added to websites, apps, email, GroupMe, Facebook Messenger, Kik, Skype, Slack, Microsoft Teams, Telegram, SMS, Twilio, Cortana and Skype for Business.

Along with cognitive services, Azure Bot service offers some excellent services including Language translation, recognizing users from pictures etc.

Bot Architecture



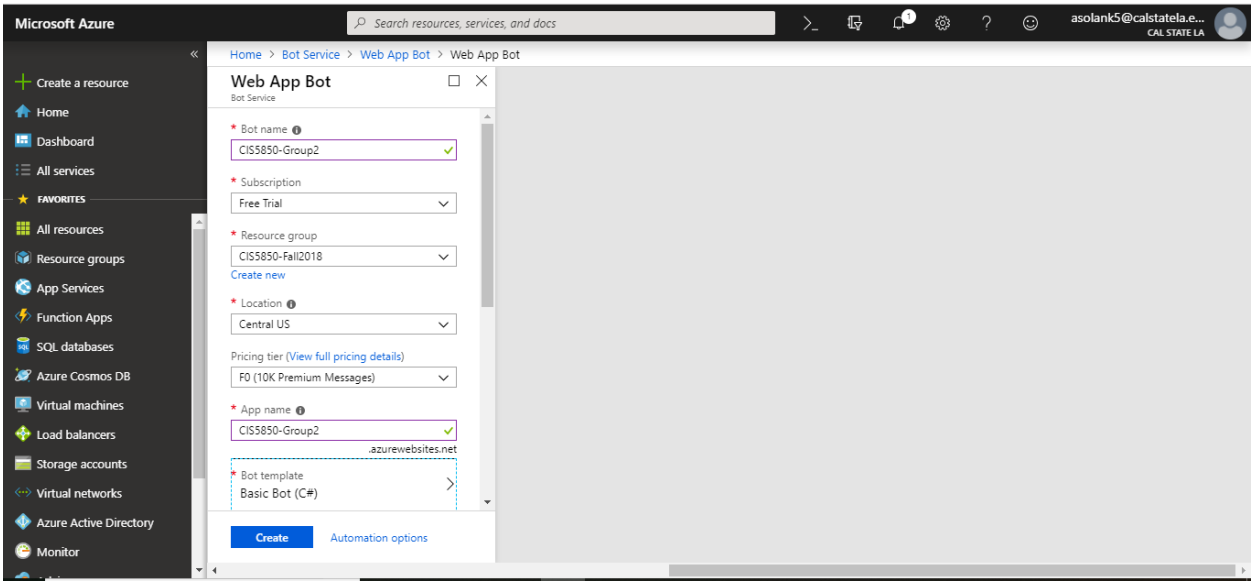
Practical Applications

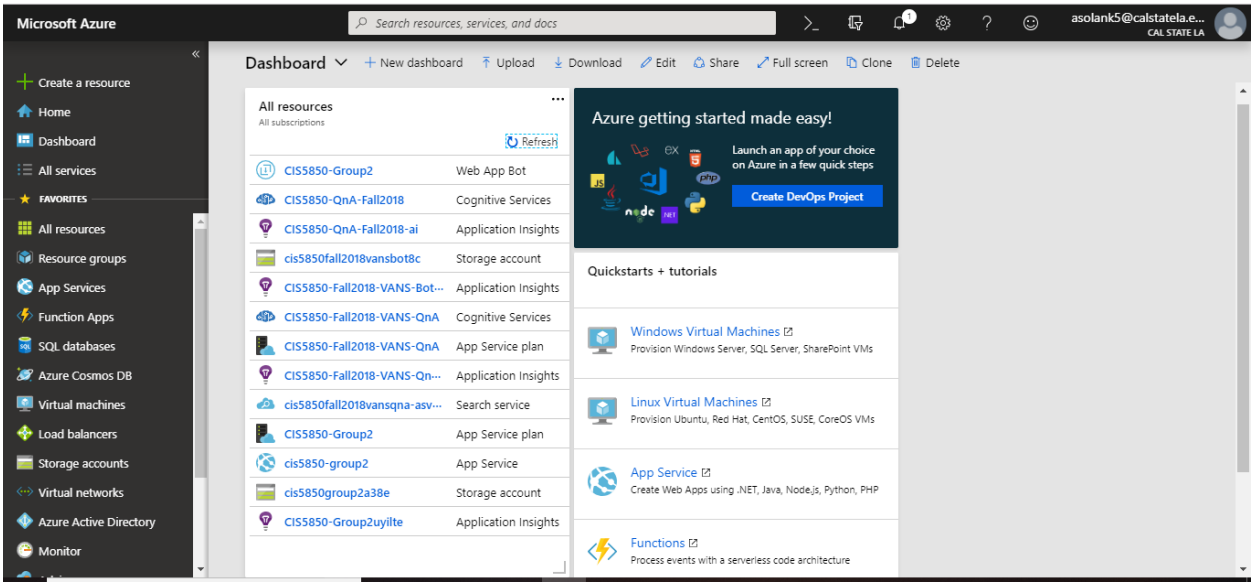
As Bots provide an experience that feels less like using a computer and more like dealing with a person - or at least an intelligent robot, It has various practical applications such as.

- Health Care Assistant
- Multi-Media Marketing
- Smart Trip Assistant
- Customer Support
- Personal Assistance

Creating Azure Bot Service

Step 1: Creating Chat Bot from Microsoft Azure portal





CIS-Group2 is the name of Chat Bot created. Resource Group selected is Javascript and Resource Location is West US.

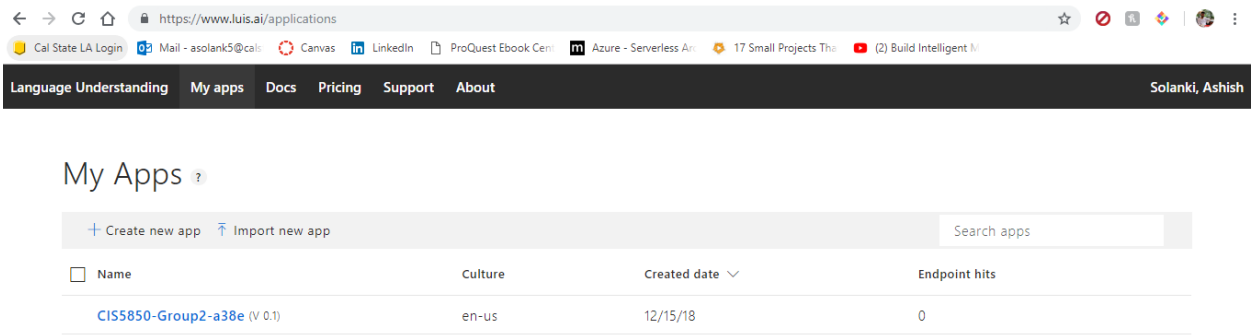
In this project we have created a Microsoft Azure Chat Bot which and a Cognitive Service (LUIS) which helps us to understand and create a conversational Chat Bot.

LUIS App

Step 2: Up untill here, we have created successfully Azure Chat Bot. Now to make this bot interactive, we need an AI based Cognitive Service App. Language Understanding Integration App.

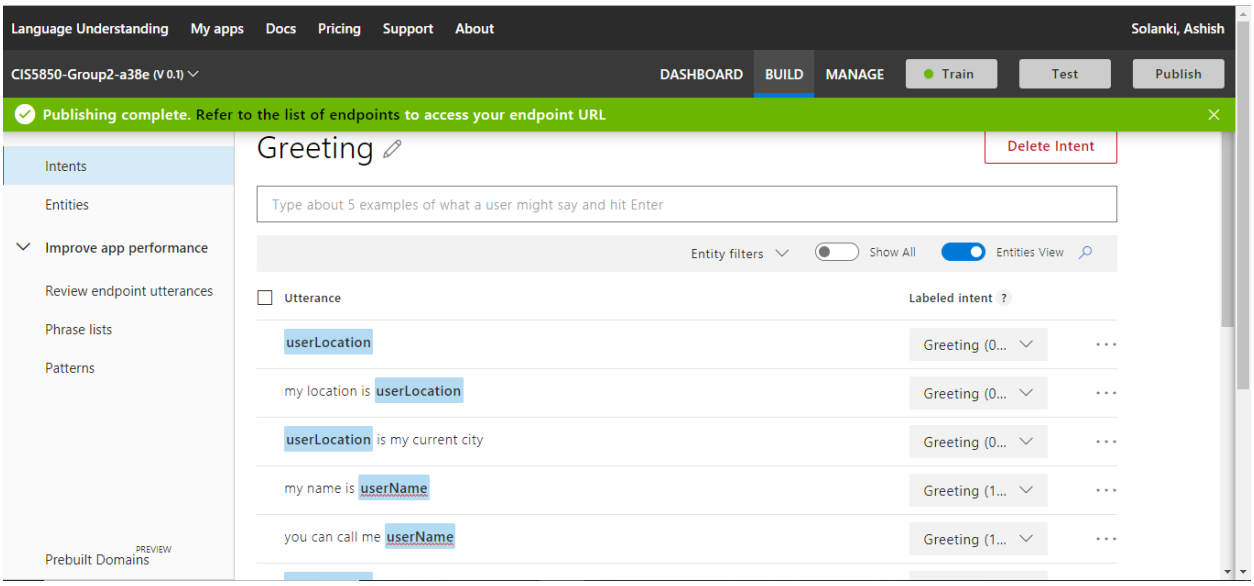
Create a Cognitive Service to interact with the Chat bot. This service primarily serves the purpose of storing utterances and answers to user based on the Questions asked in Chat bot

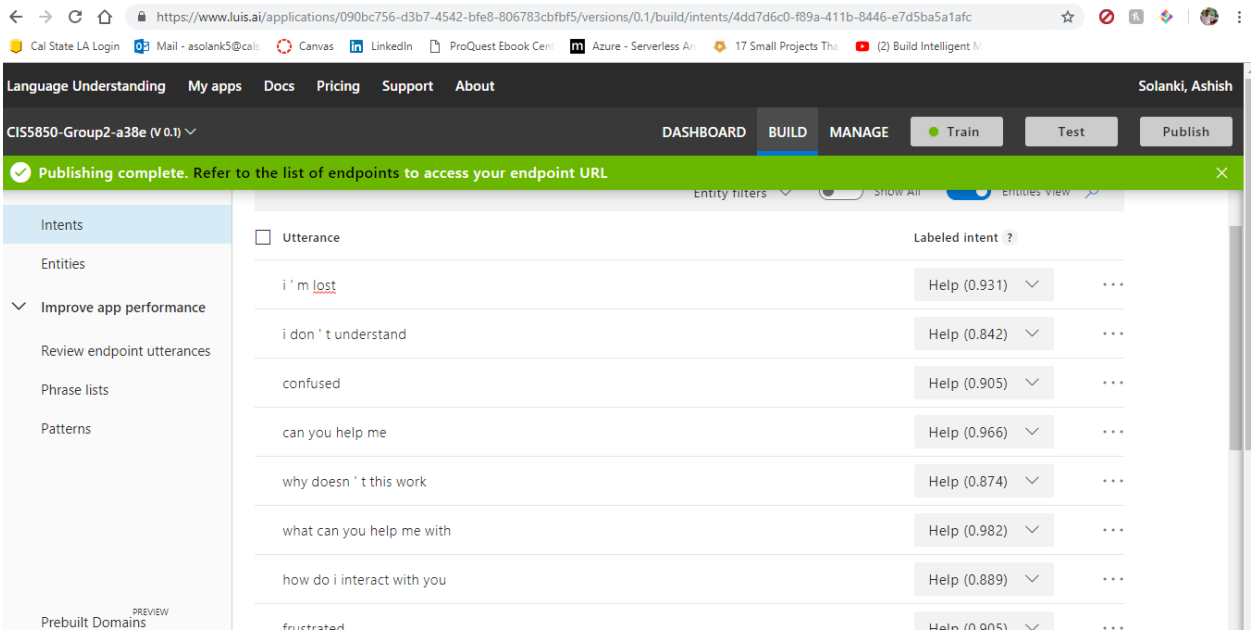
Designed to identify valuable information in conversations, LUIS interprets user goals (intents) and distills valuable information from sentences (entities), for a high quality, nuanced language model. LUIS integrates seamlessly with the Azure Bot Service, making it easy to create a sophisticated bot.



Step 3: Creating Intents and Utterances in LUIS App to create a conversational Bot with Azure

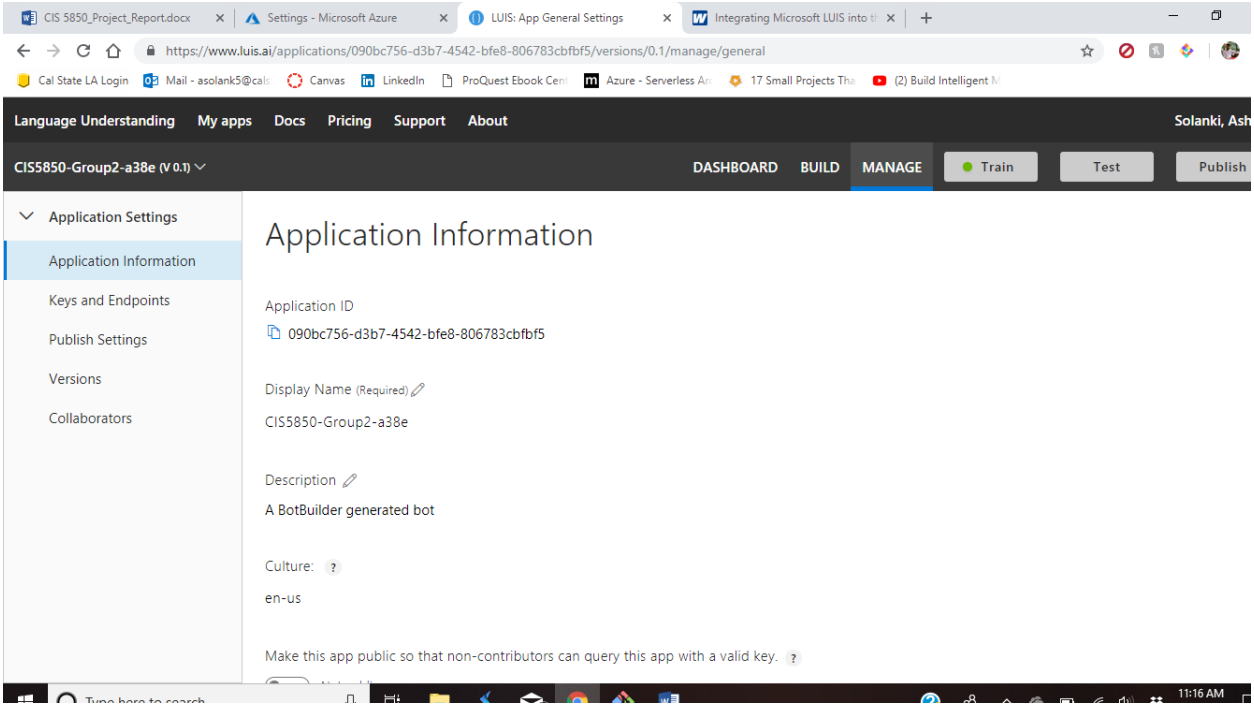
Utterances are input from the user that your app needs to interpret. To train LUIS to extract intents and entities from them, it's important to capture a variety of different inputs for each intent. Active learning, or the process of continuing to train on new utterances, is essential to machine-learned intelligence that LUIS provides.



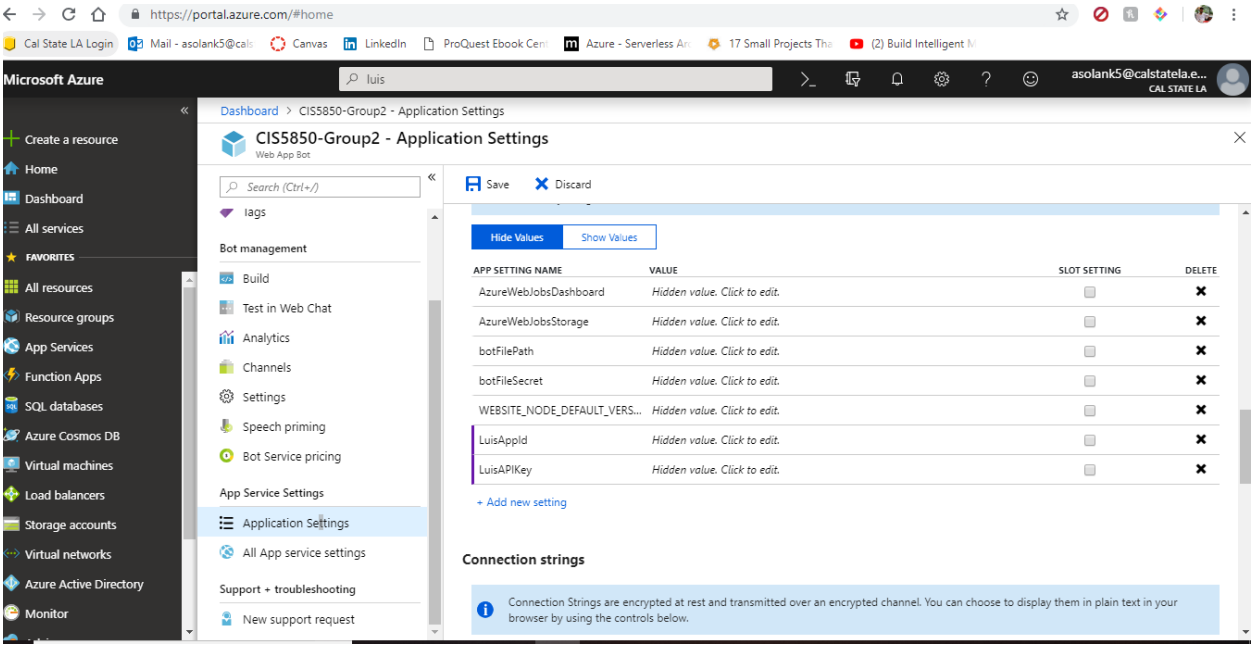


In this way numerous utterances can be created and tested and trained on LUIS portal before publishing it and using it on Chat Bot.

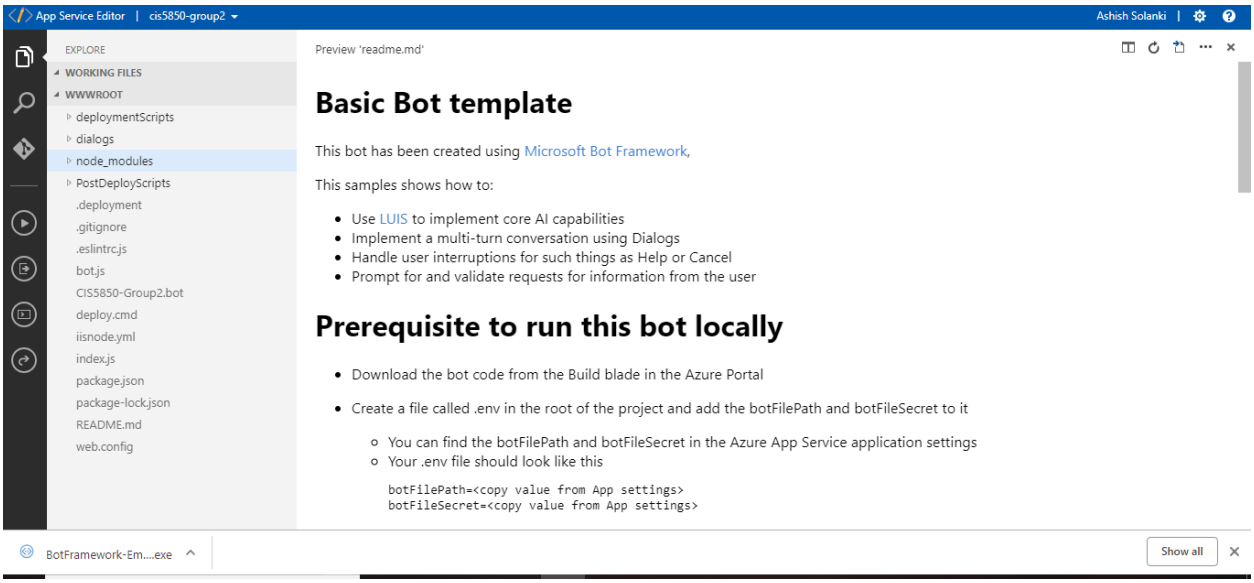
Step 4: Integrating LUIS app service to the Web Chat Bot using LUIS App ID



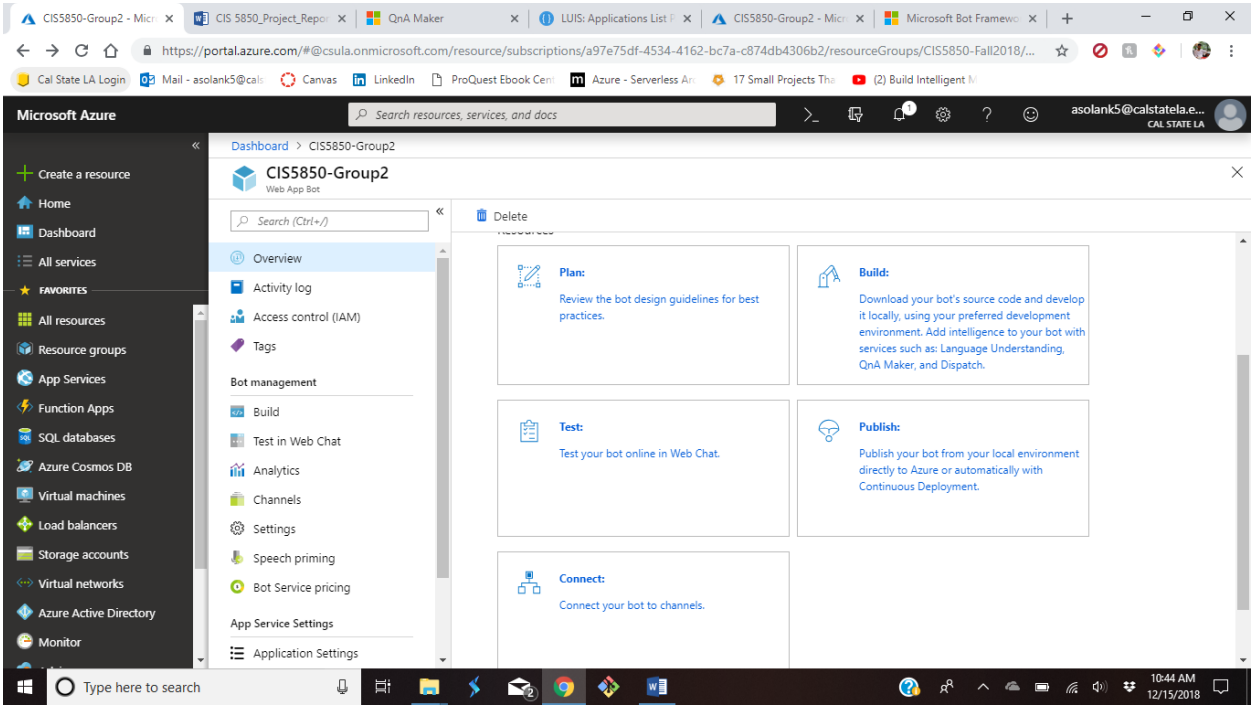
Step 5: Enter the copied LUIS App ID key to the App settings of Chat Bot



Step 6: Customize Chat Bot using Online Code Editor in Azure Chat Bot

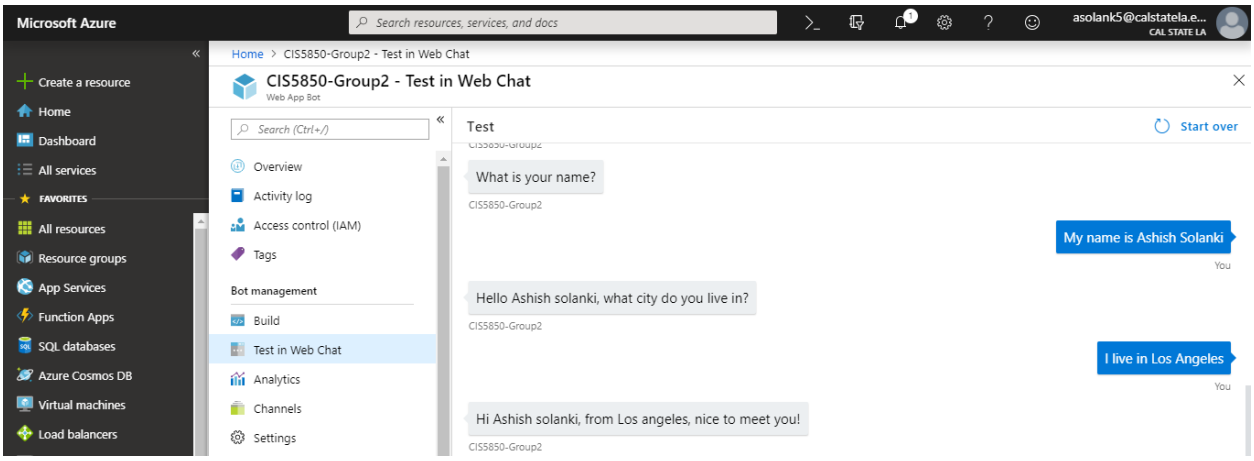


Step 7: Testing the Chat Bot service



Step 8: Adding Utterances

We have added several utterances such as “What is your name?”, “What city do you live in?” in the chatbot for testing as well as for building it for practical implementation.



Limitations

Beside the successful testing of the chatbot, we still deal some of the limitations as follows:

- QnA service: To add more question and answer to support on the bot, we need to create the utterance for questions and answer but QnA maker on MS Azure is paid service, so we can not use this for further development.
- Continuous Development Project: As Chat bot is a continuous development project, it can be built smarter as per the need.