

Difference between C45 1:1 & C45 1:2	 Included class dynamics. Added emojis. The activities have been restructured for app development Introduced the concept of Dialogflow. Solved the problem in creating a new agent by accepting the terms and service Solved the problem of displaying the appointment time in
	different formats. 7. Added more explanation for the creation of intents
Торіс	СНАТВОТ
Class Description	Students create their very first AI chatbot by API programming and integrating it with their app. This involves learning to train the bot on user requests and developing appropriate bot responses.
Class	C45
Class time	50 mins
Goal	Develop an Al-based chatbot.
Resources Required	 Teacher Resources: Dialogflow laptop with internet connectivity earphones with mic notebook and pen Student Resources: Dialogflow laptop with internet connectivity earphones with mic notebook and pen
Student	Hats-off: Specific instructions for giving hats-off will be

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Motivation and Engagement	 Concept Magnifier: Used to highlight new concepts and connect them with real-life examples. Knock-Knock!: To nudge the students to make sure 	
	they are attentive. Thinking Caps: Used to engage the students for an	
	 activity or Q&A. All types of Quizzes: Includes revision quizzes, riddles and pop-up quizzes. 	
	Candy Boosters: Used to motivate the students to do better in the activities.	
	Important Points to Remember: To hig important concepts.	hlight
Class structure	Warm-Up Teacher-led Activity Student-led Activity Wrap-Up	5 mins 15 min 25 min 5 mins

CONTEXT

Introduce the concept of changing lanes by adding the key condition.

Class Steps	Teacher Action	Student Action
Step 1: Warm-Up		FYR: If out of the two students, one is an introvert/average learner,
(5 mins)		and the other is an extrovert/fast learner, then we refer to the

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Hello! Welcome back to your action-packed coding class! To start today's class - let's quickly review what we did in the last class.	introvert/average learner as <student 1="" name=""> and the extrovert/fast learner as a student name 2. The students review the code from the last class.</student>
I have an exciting quiz question for you! Are you both ready to answer this question? Click on the bottom right corner of your screen to start the In-class Quiz. A quiz will be visible to both you and the students. Encourage the students to answer the quiz question. The students may choose the wrong option, help the students to think correctly about the question and then answer again. After the students select the correct option, the button will start appearing on your screen.	ESRs: Varied.

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Click on End Quiz to close the quiz	
pop-up and continue the class.	
Refer to teacher Resources page/slides 1-2 for the image.	
Q1) Which are the Playing and Non-playing characters in the Pac-Man game?	ESRs: PC -> Pac-Man. NPC -> Ghosts.
Q2) What are the rules in the Pac-Man game that bring balance to the game?	ESRs: Power pellets also known as Energizer because the ghosts to go into the Blue mode, allowing Pac-Man to eat them which bring
Give a candy booster to the student who has answered correctly. Great! Today's class is quite an	balance to the game.
interesting one, we are going to learn a technology which is new to you. <student 1="" name="">, have you heard the word "Dialogflow"?</student>	
Google Dialogflow ! Google Dialogflow is one of the services provided by Google where you can create your own chatbot.	ESRs: Varied.
<student 2="" name="">, do you know what a chatbot is?</student>	

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chatbot:

A chatbot is a computer program that allows interaction between a human and a machine.

Examples of chatbots: Alexa and Siri.

In today's class let's learn more in detail about chatbots.

ESRs:

Varied.

Teacher Initiates Screen Share

CHALLENGE

Understanding the creation of a chatbot

Step 2: Teacher-led Activity (15 mins)

The teacher opens <u>Teacher Activity 2</u>. and shows the students about the chatbot called Igishka. She is trained to respond to basic questions.

Today, we are going to build a basic chatbot. Let's follow the following steps to create our own bot.

Guide the students to open <u>Student</u>
<u>Activity 1</u> and the teacher opens
<u>Teacher Activity 3</u>.

The students listen.

The students open <u>Student</u> <u>Activity 1</u>.

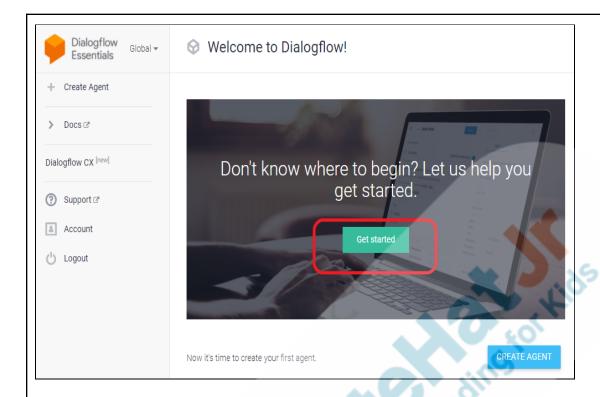
(The teacher should provide a dummy Gmail account if the students don't have any).

- 1. Open the <u>dialogflow</u> and Sign in with your Gmail or your parent's Gmail account here.
- 2. Once the Dialogflow is opened. Click on the **Get started** button.

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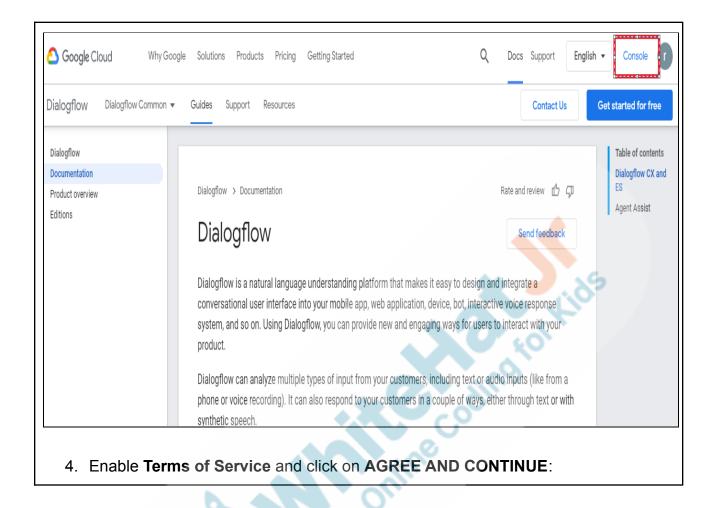
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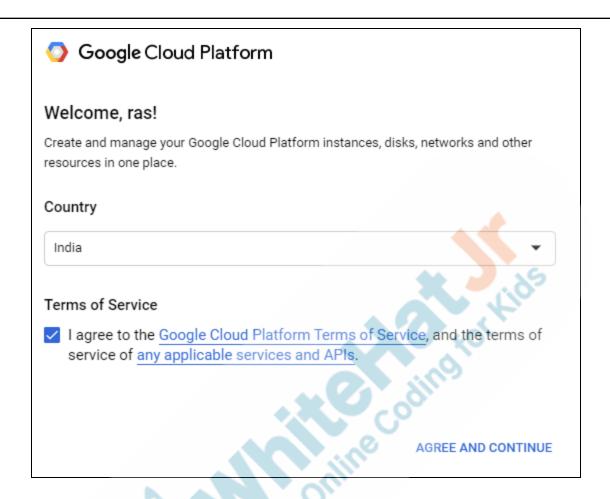


3. On the Dialogflow documentation page, click on the **Console** button on the top-right to go to Developer Console.









5. Now let's create a bot. Open the <u>Teacher Activity 3</u>. and click on **Create Agent** on the Dialogflow interface:



6. At the top, add the **Agent name** as **My_Assistant** and select the default timezone as **Asia/Colombo**, and press the **Create** button.

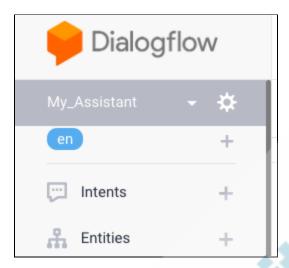
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WORKING...

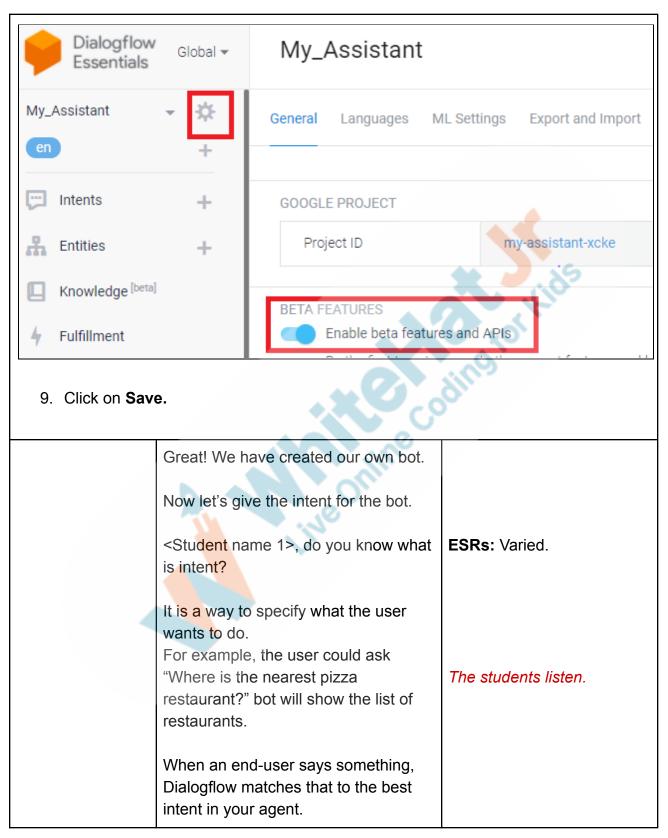
- Dialogflow will start **Working...** on creating your bot.
- 7. You can see your bot has been created with agent:



8. Now click on the **setting icon** to edit your bot settings and enable the **Enable beta features and APIs** option. This will help us make the bot extremely smart:







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Refer <u>Teacher Resources</u> page/slide 3 for the image.

For example, you could create a weather agent that recognizes and responds to end-user questions about the weather.

Now let me show you how this bot responds.

Refer to <u>Teacher Resources</u> page/slide 4 for the image.

A basic intent contains the following steps:

 Training phrases: In training phrases, we create end-user phrases—the phrases that the end-user might say.

For example, the training phrase "I want pizza" trains your agent to recognize end-user expressions that are similar to that phrase, like "Get a pizza" or "Order pizza".

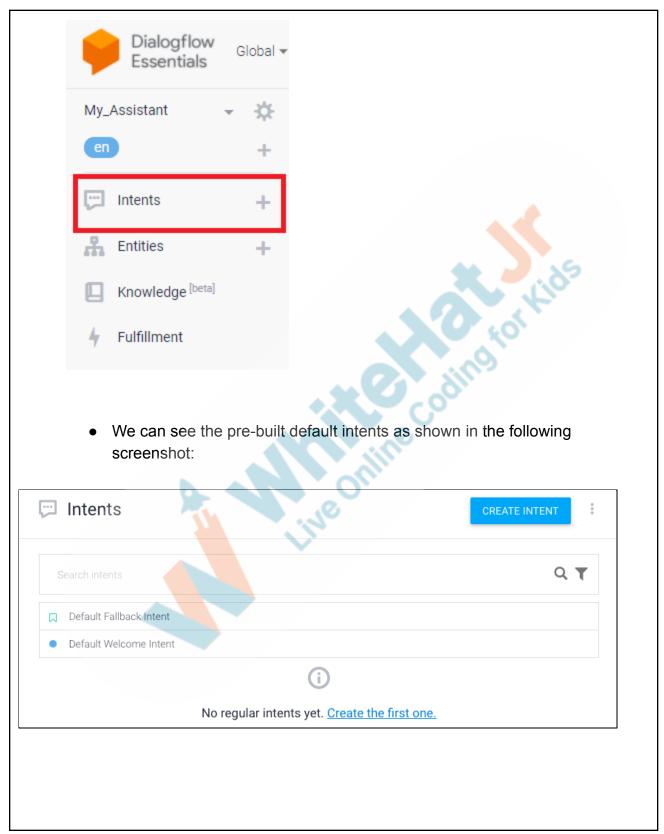
- Action: We can define an action that has to be triggered for each intent.
- Parameters: When an intent is matched at runtime, Dialogflow provides the extracted values from the end-user expression as parameters.





	Examples: "book a room on Tuesday", where "Tuesday" is annotated.	
	 Responses: You define text, speech, or visual responses to return to the end-user. 	
	For example, if you are asking to book the book ,your bot can be trained to give a response as "Okay, I booked a room for you.	
	<student 2="" name="">, what is the first step in intent?</student>	ESRs: Training phrases.
	Exactly! Let's learn how to create the training phrases.	lingit
10. Let's click on Intents:		



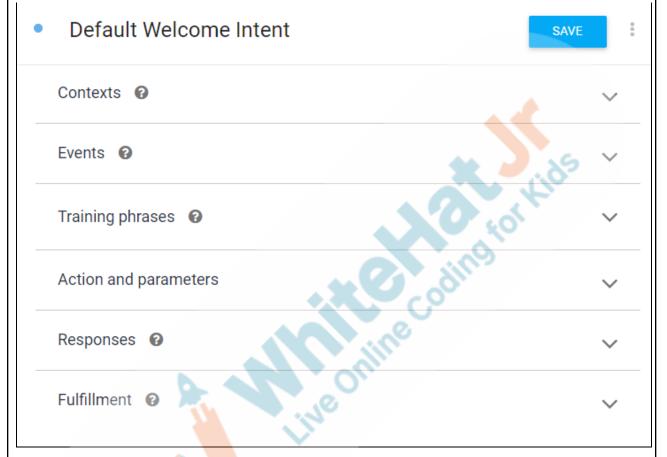


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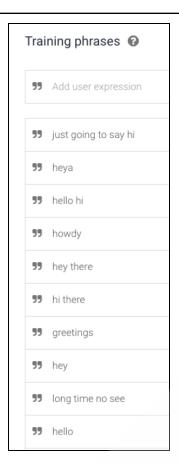
11. Select the **Default Welcome Intent** option to understand the page in detail:

Note: Let's learn about the **Training phrases**, **Responses**, and **Action and parameters** options in this class. We will learn the rest other tabs in the upcoming class:



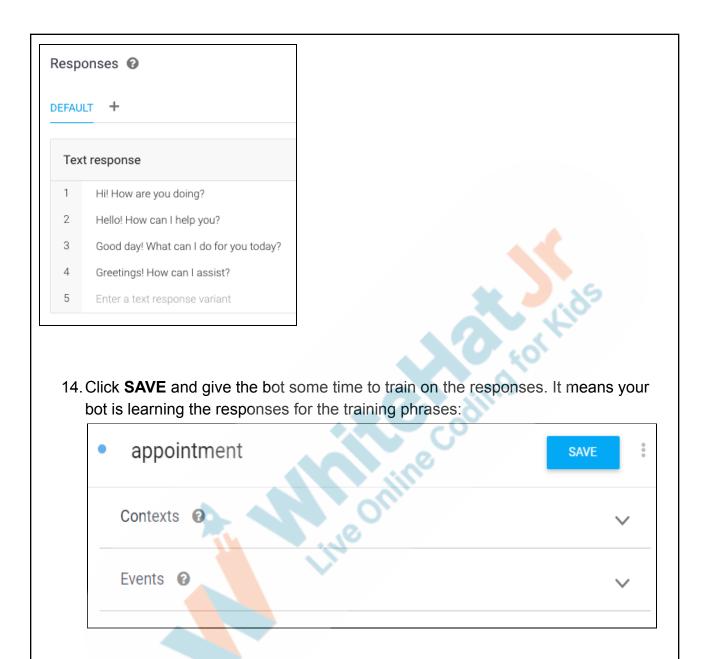
12. **Training phrases:** It contains possible questions/words the user can ask. Here, we have default training phases. We can also add user expressions/questions into it:





13. Now let's click on the **Responses** tab, which is available below the training phrase tab. Here there are 5 responses set for the training phrase of Welcome intent.



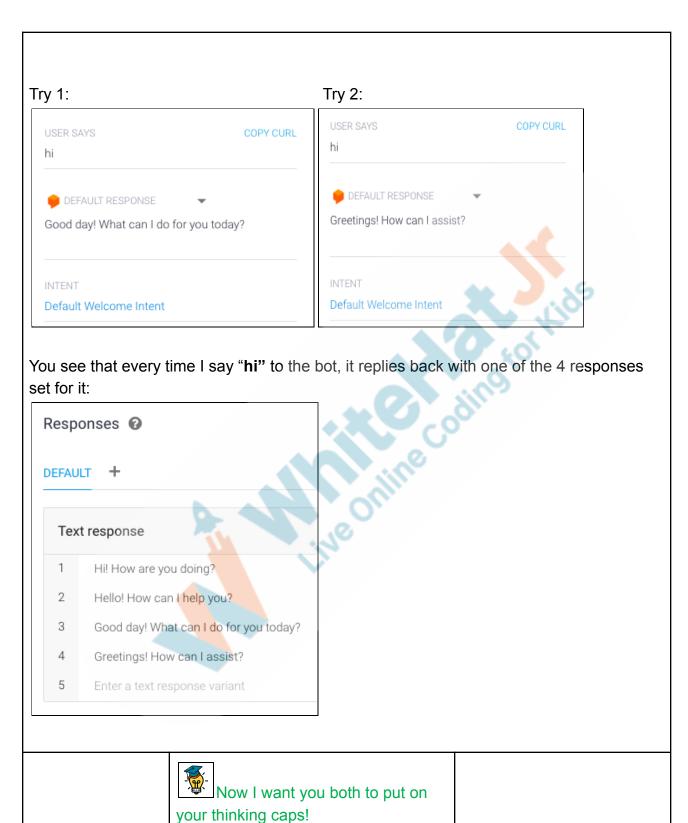






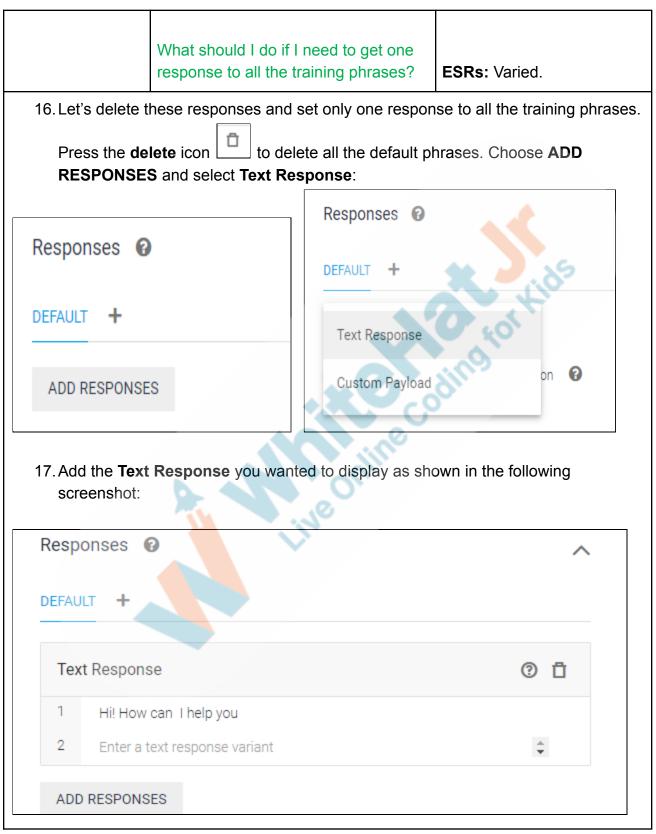
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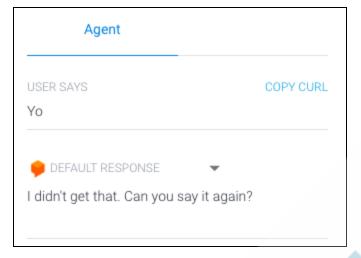
18. Now click on the **Save** button and let the bot train. You can see your response on the right side of your interface: Agent USER SAYS COPY CURL hi DEFAULT RESPONSE Hi! How can I help you Great! We have trained the bot to welcome the user. <Student name 2>, what will happen **ESRs**: if the user says something which the Varied. bot is NOT trained to reply on? The teacher gives the input as shown in the below step.

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19. Guide the students about the usage of Fallback intent:



<Student name 2>, what did you see?

<Student name 1>, where does this response come from?

This response comes from the fallback intent:

bot doesn't have responses in its memory that match the user input or the question.

The teacher guides the students to open the fallback intent.

ESRs:

The bot replies with a default statement.

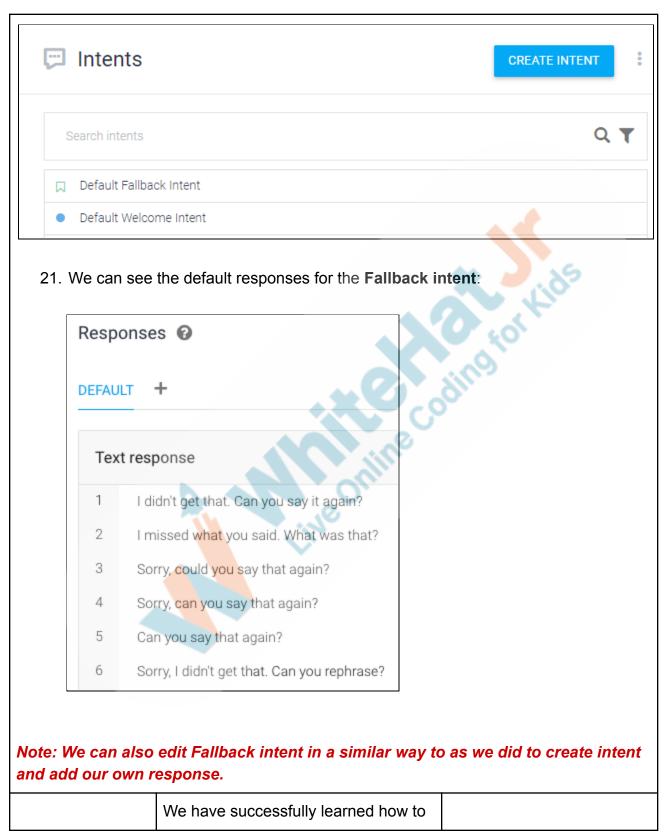
ESRs: Varied.

20. Now go back to the intent option, click on the **Default Fallback Intent** option:

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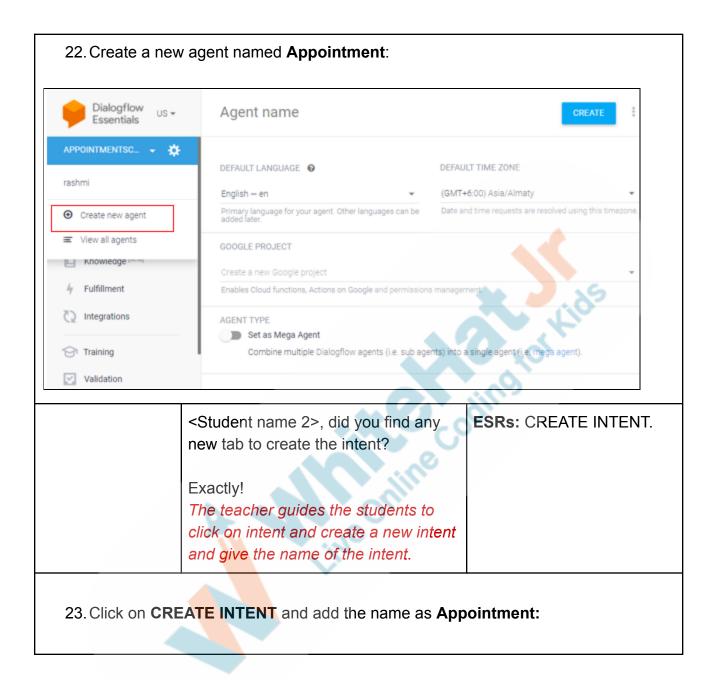
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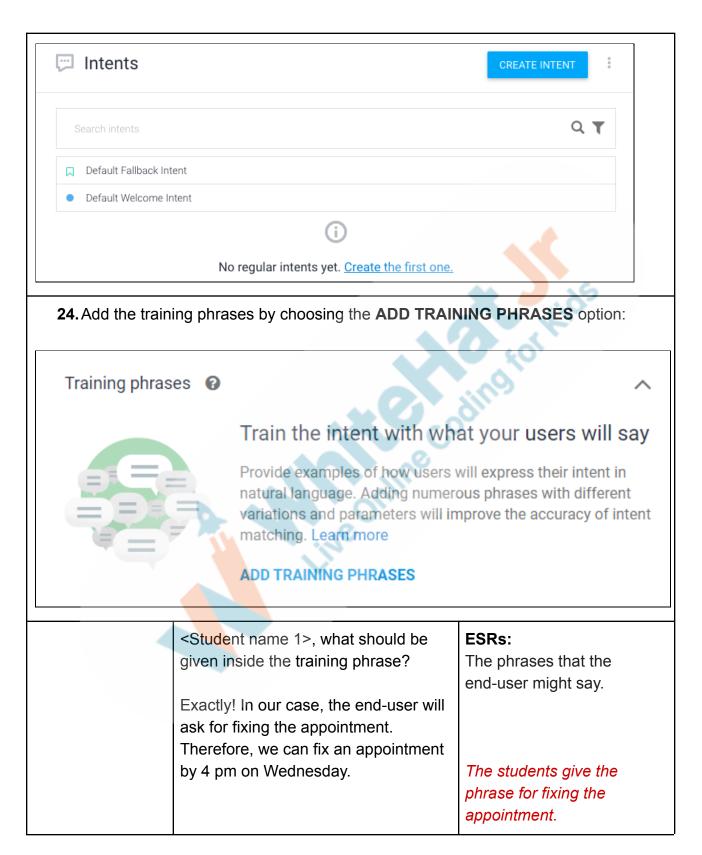
	train the bot. Now it's your turn. We are going to train the bot for scheduling an appointment. Please share your screen with me.	
Guide	ne students to press the ESC key to co the students to start a screen share. eacher gets into fullscreen.	ome back to the panel.
Creating a c	ACTIVITY hatbot for scheduling appointments.	A for Kids
Step 3: Student-Led Activity (25 mins)	Guide the student to open Student Activity 1. We are going to create a bot that schedules the appointment for us by accepting the system time. Any idea how to get started?	The students open Student Activity 1. ESRs: Varied.
	<student name1="">, what is the first step? The teacher guides the students to create an agent for scheduling appointments. Note: The teacher needs to ensure students have enabled the Terms and service.</student>	ESRs: Creating an agent. The students create the new agent.

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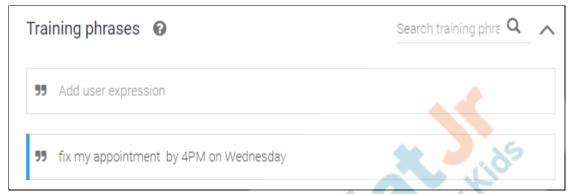


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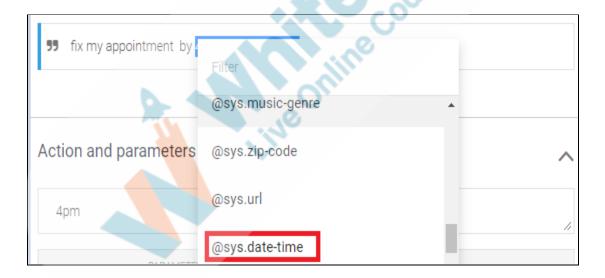


The teacher should guide the students to give the phrase with timing and day.

25. Add the training phase as shown below



26. Now double-click on **4pm on wednesday** and add the action parameter as **@sys.date-time**:



Note: After giving the phrases, double-click on time and date to add Action and Parameter.

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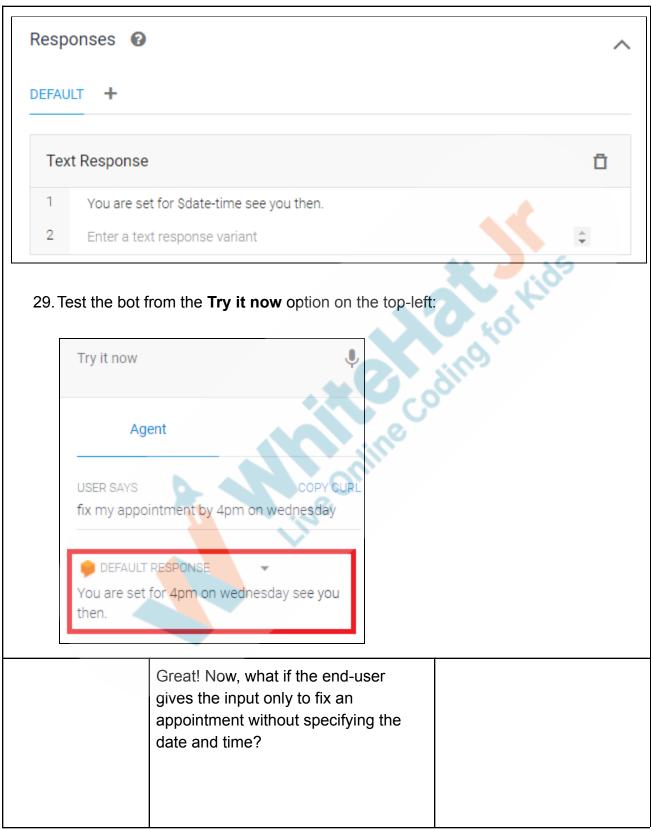


27. Choose the Value of action and parameters as \$date-time.original from the dropbox as shown in the following screenshot: Action and parameters Enter action name PARAMETER NAME @ ENTITY @ @sys.date-time date-time \$date-time + New parameter \$date-time.original <Student name 1>, what could be the **ESRs**: next after adding training phrases? Responses. Exactly! To get interactive responses, we can fetch the date and time from the system. This can be done using \$date-time.it will help to fetch the system date and time. The teacher guides the students to The students add the add the response, save and test. responses. 28. Add the response to the training phase and click on **Save**:

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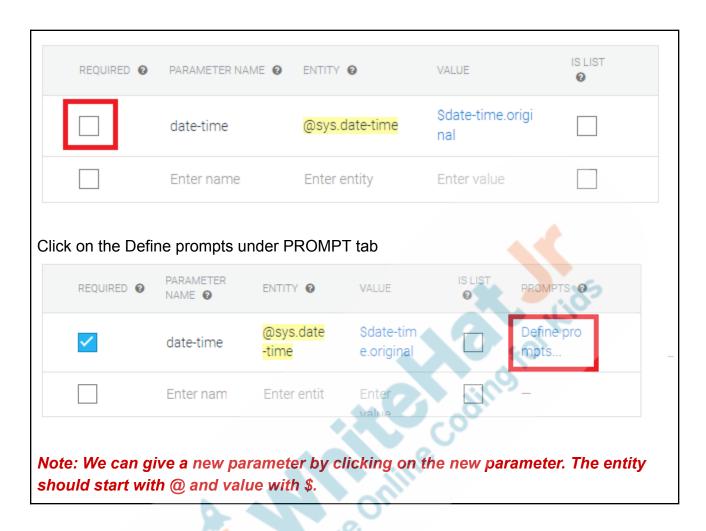
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	Now I want you to put on your thinking caps.	ESRs: Varied.
	Can anyone tell me how to ask the end-user to include the date and time?	ESRs: We can define an action that has to be triggered for each intent.
	<student 2="" name="">, do you remember what is an action?</student>	triggered for each intent.
	Exactly! We can define the action to trigger when the end-user is not entering the parameter.	CILIDS
	<student 1="" name="">, what is a parameter?</student>	ESRs: The extracted values from the end-user expression are called
	Great! Let's set the action with the parameter value. Here, date and time are the parameter values.	parameters.
	The teacher guides the students to set the action.	The students write and test.
30. Include the p	prompt message for action and paramete checkbox:	er by selecting the

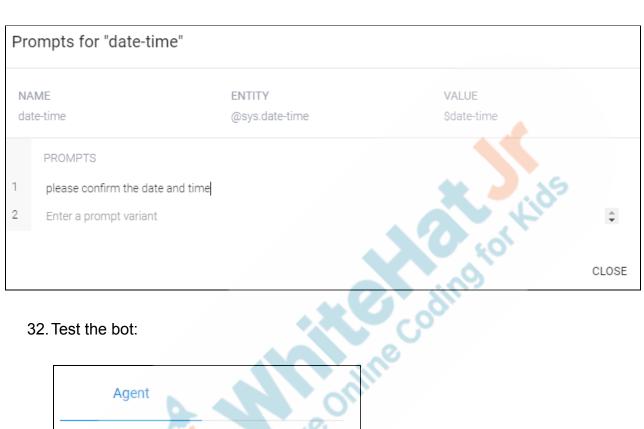
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31. Enter the message that needs to be displayed inside the **Prompts** box if the user misses entering the date and time as shown in the following screenshot. Once you enter the message, click on **CLOSE** and then **SAVE**:



USER SAYS
fix appointment

DEFAULT RESPONSE
please confirm the date and time

Feeling interested?

Now, let's train the bot on more information about the agent.

ESRs: Varied.

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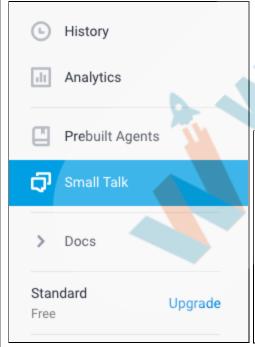
Small Talk is a list of common pre-built intents/questions created so that you don't have to recreate all the intents by yourself.

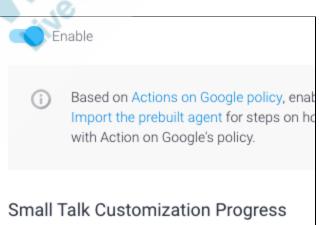
Now, let's answer all the questions, as many as you can, and then we will test the bot to see if it works.

To do that, click on the **Small Talk** service and **Enable** it.

The students listen.

33. Click on **Small Talk** service from the left-hand side **Dialogflow Essentials** menu and **Enable** it.





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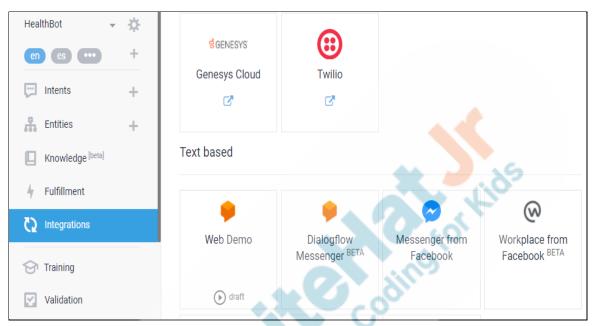


♂ Small Tal	lk	SAVE
Small Talk Custo	mization Progress	U%
☐ About ag	gent	0%
QUESTION	Who are you?	
ANSWER	1 Enter a Answer	•
QUESTION	How old are you?	2 Cot Kids
ANSWER	1 Enter a Answer	
QUESTION	You're annoying.	
ANSWER	1 Enter a Answer	\$
QUESTION	Answer my question.	
Enter the answer fo	r <mark>the above q</mark> uestion and click on save	
	Great! We are at the final stage. Let's integrate our chatbot into a website.	
	To do that, we need to click on "Integration" and enable Web Demo.	
	The teacher guides the students to enable integration.	The students enable the web demo.

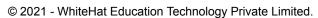
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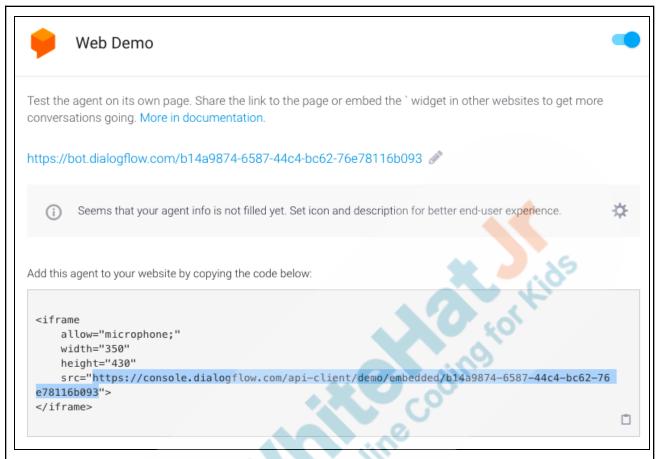
34. Click on **Integrations** on your left-hand side, scroll down and search for the **Text-Based** section; select the **Web Demo** option and click on the **ENABLE** button:



You will get a popup showing the bot link as shown in the following screenshot:







The link in the **src** or source is the bot link. Copy this link, paste it into the panel, and press **Submit**.

Note: You can also paste this link in another Chrome tab and see how your bot looks and works.

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Step 4: Wrap-Up (5 min)	Do you see how easy it is to add new functionalities on top of properly structured code?	ESRs: Yes!
	<ask alternatively.="" both="" students="" the=""></ask> Refer to Teacher Resources page/slide 5-7 for images.	
	Q1) What do you mean by Training phrases?	ESRs: Training phrases are where we create end-user phrases—the phrases that the end-user might say.
	Q2) What will happen if the user says something which the bot is NOT trained to reply to?	ESRs: The response comes from the fallback intent.
	Q3) What are the different ways for providing the response?	ESRs: We can define text, speech, or visual responses to return to the end-user.
	You get Hats Off for your excellent work!	Make sure you have given at least 2 Hats Off during the class for:
	In the next class, we will add how to add the appointment to our google calendar and how to publish in different messengers.	Creatively Solved Activities C+10 Great Question

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		Strong Concentration
	Congratulations! You have set a new benchmark.	
	Brace yourself! Your new challenge is ready.	
	You have to apply the programming constructs learned during the past few classes to create the Fruit Collector App.	* Kids
Project Overview	MY CITY chatbot	A 40,
	Goal of the Project:	dina
	In Class C45, we created a chatbot using Google Dialogflow. We integrated the Small Talk service, which has a list of pre-built questions, and we created intents for the chatbot to respond to. In this project, you will apply what you	
	have learned in the class to achieve the following goals.	
	Main Goal • Create a chatbot.	
	Additional Goal 1 Create related intents for the chatbot.	

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Story:

A reputed travel company in your city is going digital. They have hired you to create a chatbot for them.

The chatbot needs to provide information about your city to first-time travelers so they can plan their visits better.

I am very excited to see your project solution and I know you both will do really well.

Bye Bye!

Teacher Clicks

≭ End Class

Additional Activities I

Encourage the students to write reflection notes in their reflection journals using markdown.

Use these as guiding questions:

- What happened today?
 - Describe what happened.
 - o The code I wrote.
- How did I feel after the class?
- What have I learned about programming and developing games?

The students use the markdown editor to write their reflections in a reflection journal.

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What aspects of the class helped me? What did I find difficult?	
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Activity	Activity Name	Links
Teacher Activity 1	Teacher Resource	https://curriculum.whitehatjr.com/1% 3A2+Assest/1%3A2+Pro/Copy+of+1 _2+PRO+C45-Teacher+Resources. pptx
Teacher Activity 2	Dialogflow	https://dialogflow.cloud.google.com/
Teacher Activity 3	Teacher Reference	https://console.dialogflow.com/api-cli ent/demo/embedded/95d1542f-5d82 -4bbb-b0dc-8198e50817d8
Student Activity 1	Dialogflow	https://dialogflow.cloud.google.com/