

## [Trixie \(Datacentrix Virtual AI Assistant\).](#)

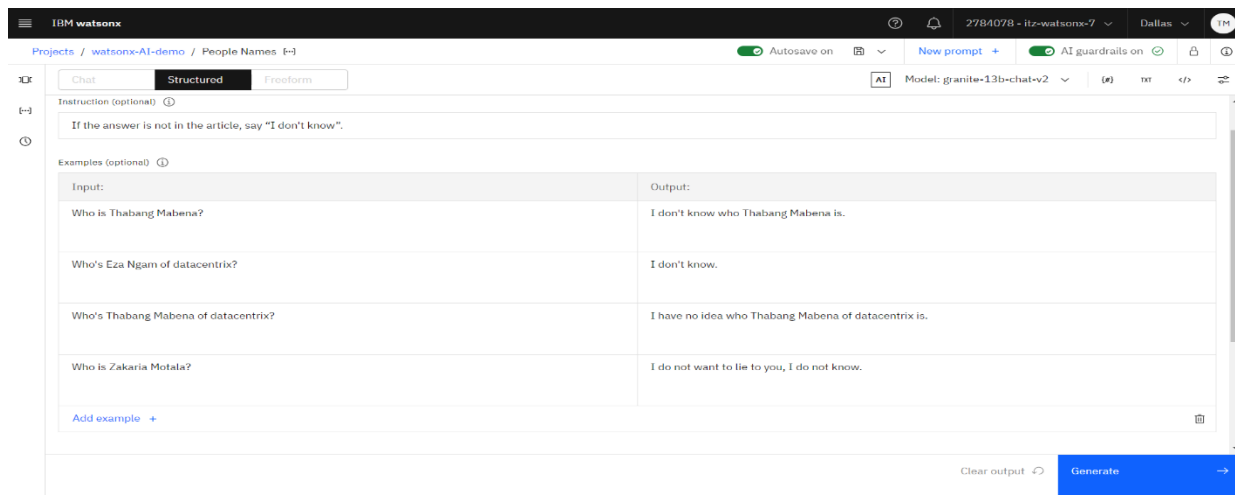
In the rapidly evolving landscape of artificial intelligence, creating robust and intelligent systems that enhance user experience and streamline business processes is paramount. Our project, Trixie, exemplifies this endeavour by leveraging the sophisticated capabilities of IBM's Watson ecosystem. Integrating **Watsonx.ai**, **Watson Discovery**, and **Watsonx Assistant**, Trixie is designed to deliver a seamless and intuitive interaction experience. By utilizing Granite model by IBM and employing web crawling technology, Trixie can dynamically connect with the company's website, providing real-time, relevant responses to user inquiries. This project encapsulates the cutting-edge advancements in AI and natural language processing to create an intelligent assistant capable of transforming the way businesses engage with their customers.

### Integrations:

- Watson.ai
- Watson Discovery
- Zendesk (creating a ticket which will be sent to the support team)
- HubSpot (CRM: Save user data)
- Twilio (Speech to text)

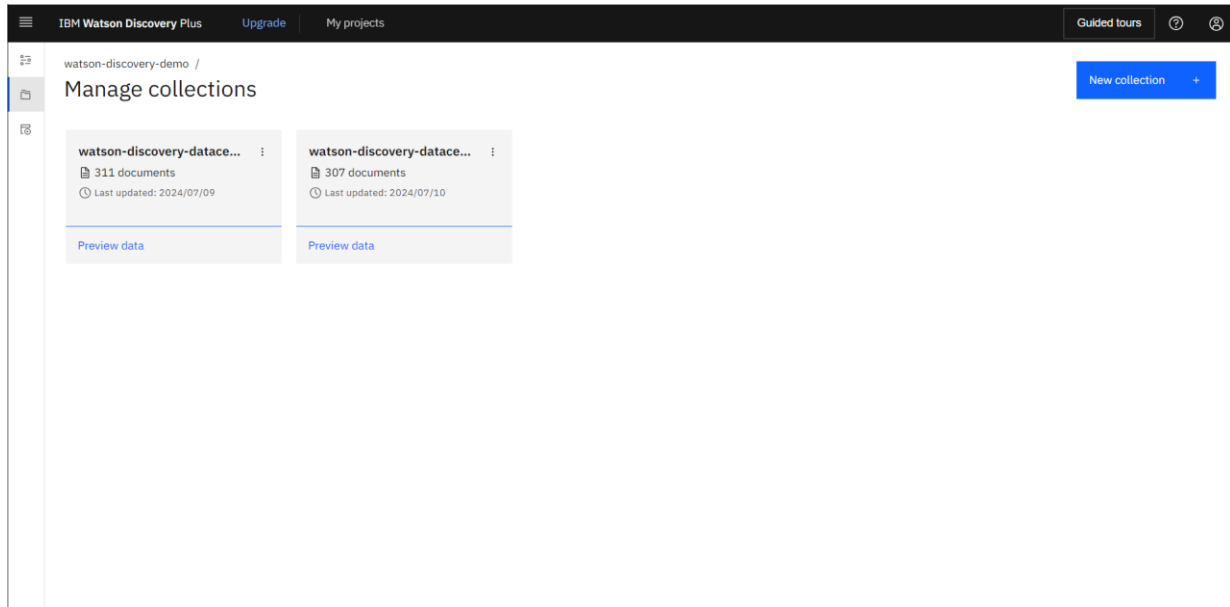
### Watsonx.ai

- This is the Generative AI that was used to train the model: **granite-13b-chat-v2**, to restrict the model from hallucinating. This example shows how the model was trained using the provided examples on the picture above.



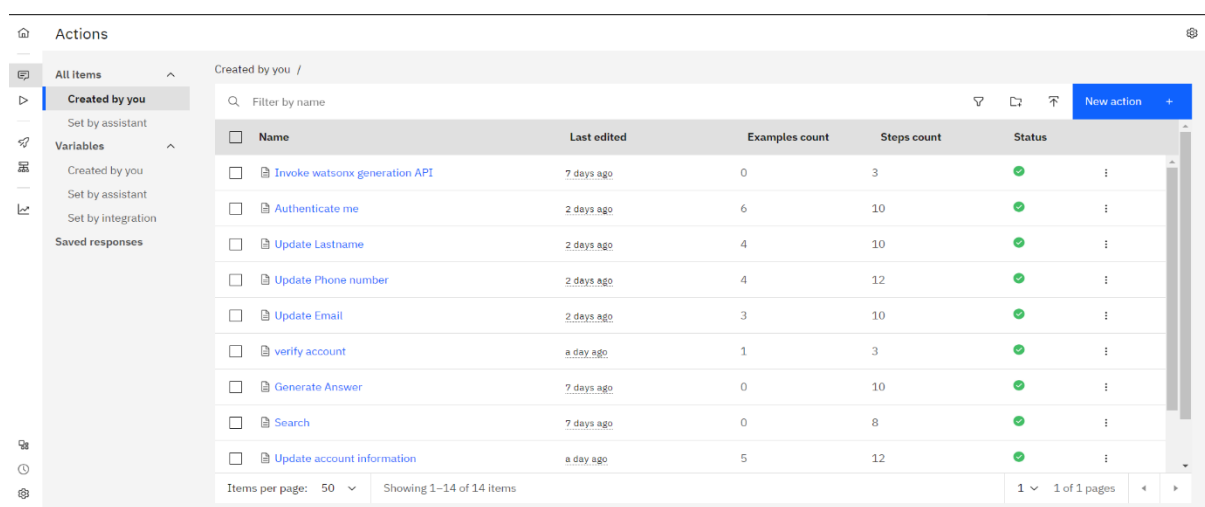
## Watson Discovery

- Watson Discovery is an AI-powered insight engine that was used on Trixie project to process documents and identifies patterns, trends, and actionable insights within datacentrix website. We used **web crawl** to retrieve relevant information about datacentrix.



## Watsonx Assistant

- The Watsonx Assistant, a pivotal component of the Trixie project, represents the forefront of conversational AI technology. Designed to deliver an exceptional user experience, Watsonx Assistant harnesses the power of IBM's advanced AI capabilities to create a highly intuitive and interactive platform. By seamlessly integrating with other Watson services such as Watsonx.ai and Watson Discovery, the Watsonx Assistant elevates Trixie's ability to understand and respond to user queries with remarkable precision and relevance.



Actions																																																																					
<div> <div>All Items</div> <div>Created by you</div> <div>Set by assistant</div> <div>Variables</div> <div>Created by you</div> <div>Set by assistant</div> <div>Set by integration</div> <div>Saved responses</div> </div>	<div> <div>Created by you /</div> <div>Filter by name</div> <div>New action +</div> </div> <table> <tr> <td><input type="checkbox"/></td><td> verify account</td><td>a day ago</td><td>1</td><td>3</td><td>✓</td><td>⋮</td></tr> <tr> <td><input type="checkbox"/></td><td> Generate Answer</td><td>7 days ago</td><td>0</td><td>10</td><td>✓</td><td>⋮</td></tr> <tr> <td><input type="checkbox"/></td><td> Search</td><td>7 days ago</td><td>0</td><td>8</td><td>✓</td><td>⋮</td></tr> <tr> <td><input type="checkbox"/></td><td> Update account information</td><td>a day ago</td><td>5</td><td>12</td><td>✓</td><td>⋮</td></tr> <tr> <td><input type="checkbox"/></td><td> Get Client Information</td><td>2 days ago</td><td>5</td><td>6</td><td>✓</td><td>⋮</td></tr> <tr> <td><input type="checkbox"/></td><td> Job Application</td><td>a day ago</td><td>5</td><td>3</td><td>✓</td><td>⋮</td></tr> <tr> <td><input type="checkbox"/></td><td> Job Vacancies</td><td>a day ago</td><td>4</td><td>1</td><td>✓</td><td>⋮</td></tr> <tr> <td><input type="checkbox"/></td><td> Log an Issue</td><td>a day ago</td><td>8</td><td>9</td><td>✓</td><td>⋮</td></tr> <tr> <td><input type="checkbox"/></td><td> Create Account</td><td>2 days ago</td><td>6</td><td>17</td><td>✓</td><td>⋮</td></tr> </table> <div> <div>Items per page: 50</div> <div>Showing 1–14 of 14 items</div> <div>1 1 of 1 pages</div> </div> <div>Preview</div>						<input type="checkbox"/>	verify account	a day ago	1	3	✓	⋮	<input type="checkbox"/>	Generate Answer	7 days ago	0	10	✓	⋮	<input type="checkbox"/>	Search	7 days ago	0	8	✓	⋮	<input type="checkbox"/>	Update account information	a day ago	5	12	✓	⋮	<input type="checkbox"/>	Get Client Information	2 days ago	5	6	✓	⋮	<input type="checkbox"/>	Job Application	a day ago	5	3	✓	⋮	<input type="checkbox"/>	Job Vacancies	a day ago	4	1	✓	⋮	<input type="checkbox"/>	Log an Issue	a day ago	8	9	✓	⋮	<input type="checkbox"/>	Create Account	2 days ago	6	17	✓	⋮
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With 14 crafted actions, the Watsonx Assistant of Trixie is equipped to handle a wide range of user interactions, from simple inquiries to providing links to datacentrix web pages. Trixie's Watsonx Assistant is poised to redefine the standards of virtual assistance, setting a new benchmark for intelligent, responsive, and adaptive AI solutions.

- This first preview of datacentrix chatbot, shows how the bot will look like once it is deployed on the company website.



### Datacentrix Showcase 2024

The Datacentrix Showcase 2024 aims to encourage organisations to explore and leverage the advances in technology to best shape the future of their business.

datacentrix

showcase'24

Changing lives through technology

SAVE THE DATE

22 August 2024

Montecasino, JHB

Hi! I'm a Datacentrix Assistant. How can I help you today?

Hev Enterprise

- If a user wants to find out more about datacentrix and its core services, they can simply write their query/question on the assistant's chat function. E.g "Get me information about datacentrix".



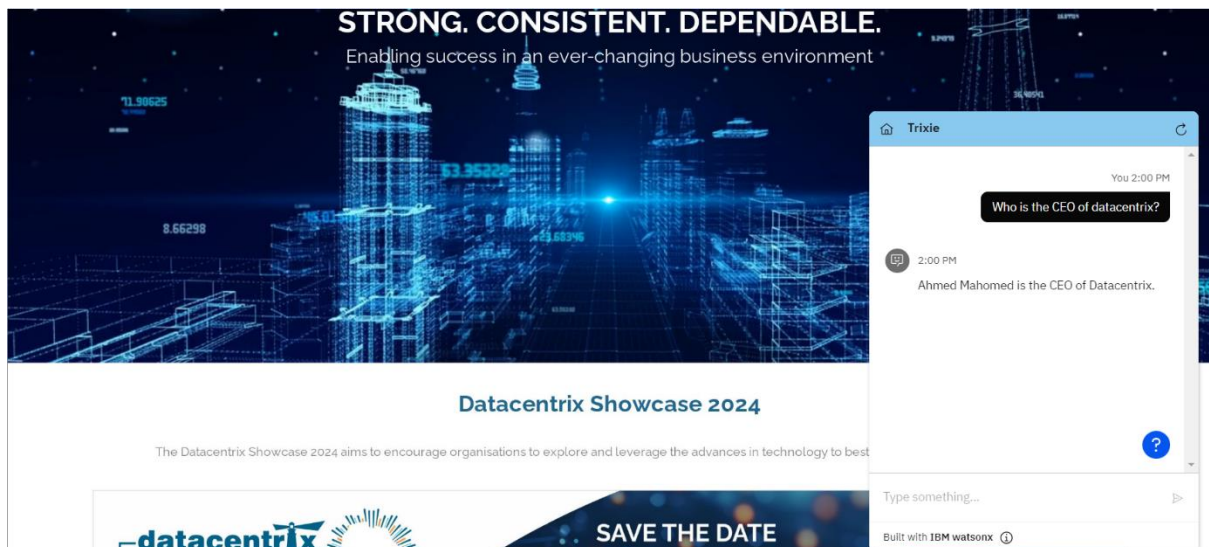
- And the user wants to find out about the mission of the company, they can simply put their query on the chat bot.



- The below example shows how the assistant will respond to questions about the core competencies of the company:



- The user now wants to know the CEO of the company:





- The user now wants to explore the job vacancies at datacentrix, Trixie provides the user with the link (Available vacancies) on which the user can use to access or see the available job openings at datacentrix.

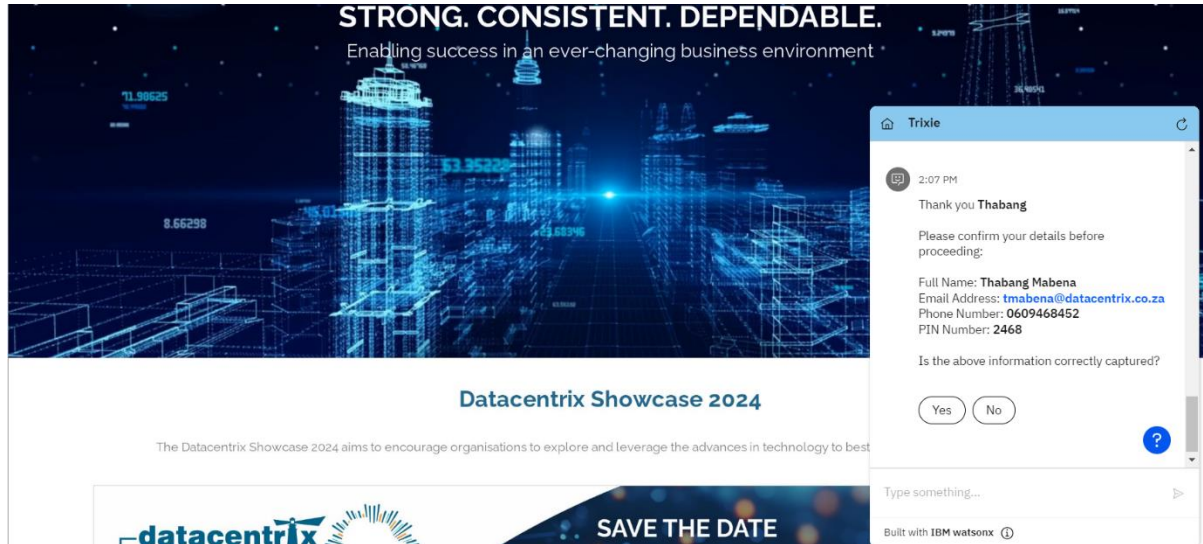


- After the user explores the job vacancies available at datacentrix, the user now wants to apply for the position available. The user starts with: "How do I apply for a job?" or "I want to apply for a job".

On the below example, if the user states that they do not have an account (to track their job application process), the assistant will allow the user to create an account.



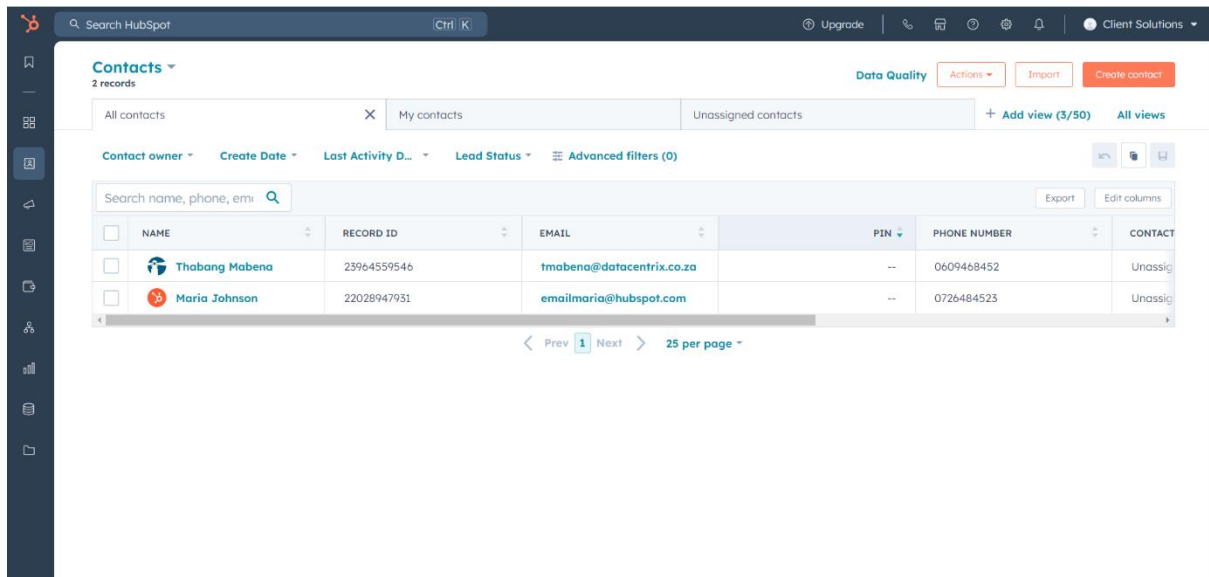
- Once the user is done providing necessary information: **First Name, Last Name, Email, Phone numbers, and four-digit PIN**, the user must confirm the captured information before proceeding with the account. If the user made a mistake on the information, he/she can select “No” from the options (**Yes/No**) to start over. After successfully creating an account, the user is automatically authenticated.



- The information is being saved on **HubSpot CRM**, after successfully creating an account, then the API returns the **RECORD ID: 23964559546**. The assistant then provides the user with a link to the datacentrix **Human Capital Page** where they will fill in the information to complete the Job application process.



- The below example is the **HubSpot CRM dashboard**. The user information has indeed been successfully saved. The user's PIN has not been saved due to the OpenAPI specification.



The screenshot shows the HubSpot CRM 'Contacts' page. It displays a table with 2 records. The columns are: NAME, RECORD ID, EMAIL, PIN, PHONE NUMBER, and CONTACT. The first record is for Thabang Mabena with RECORD ID 23964559546 and EMAIL tmabena@datacentrix.co.za. The second record is for Maria Johnson with RECORD ID 22028947931 and EMAIL emailmaria@hubspot.com. The PIN column shows dashes (--) for both records, indicating that the PIN information was not saved.

	NAME	RECORD ID	EMAIL	PIN	PHONE NUMBER	CONTACT
<input type="checkbox"/>	Thabang Mabena	23964559546	tmabena@datacentrix.co.za	--	0609468452	Unassign
<input type="checkbox"/>	Maria Johnson	22028947931	emailmaria@hubspot.com	--	0726484523	Unassign

- Now that the user has created an account and authenticated, the user can now update their phone number:



The screenshot shows the Datacentrix Showcase 2024 website. The main heading is 'Datacentrix Showcase 2024'. Below it, a subheading reads: 'The Datacentrix Showcase 2024 aims to encourage organisations to explore and leverage the advances in technology to best'. At the bottom, there is a banner for 'datacentrix showcase'24' with the tagline 'Changing lives through technology'. To the right of the banner, it says 'SAVE THE DATE 22 August 2024 Montecasino, JHB'. Overlaid on the right side of the image is a chatbot window titled 'Trixie'. The chatbot has a message from the user: 'I want to change my phone number'. The chatbot responds: 'Let's get started, to change your Phone Number, please enter your new number below...'. It then provides instructions: 'Please follow the following number format: 080 111 2222 (Important- Do not include the country code)'. The user has entered the number '0728645235' in the input field. The chatbot is built with IBM watsonx.



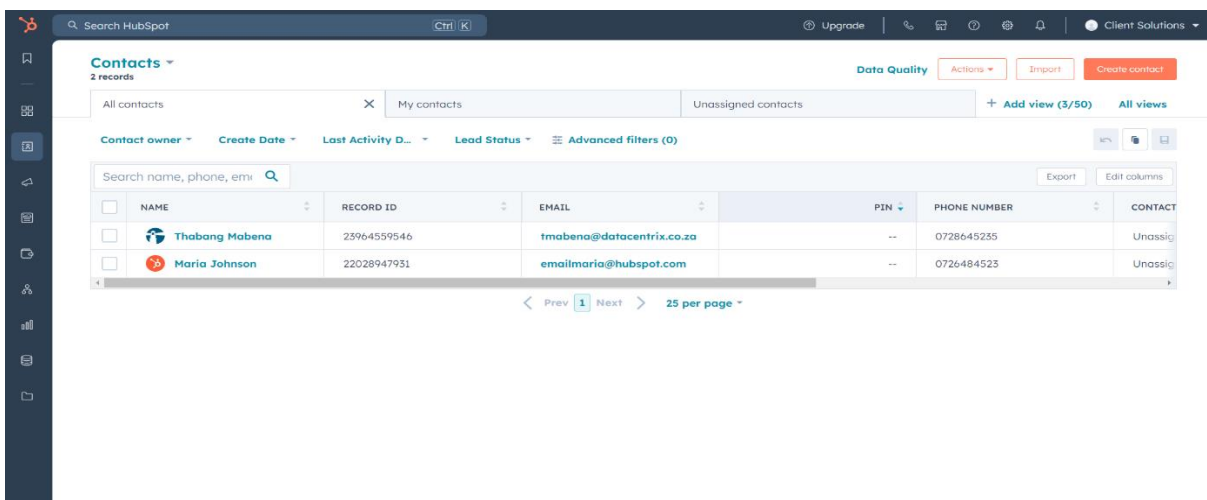
- After entering their new phone numbers, the user must confirm the new number before updating. If the user made a mistake, he/she can select “No” from the options (Yes/No) to start over:



- The user’s phone number has been updated successfully:



- The user phone numbers have been updated on HubSpot CRM.



- When the user has been successfully authenticated, they can now request to see their account information:



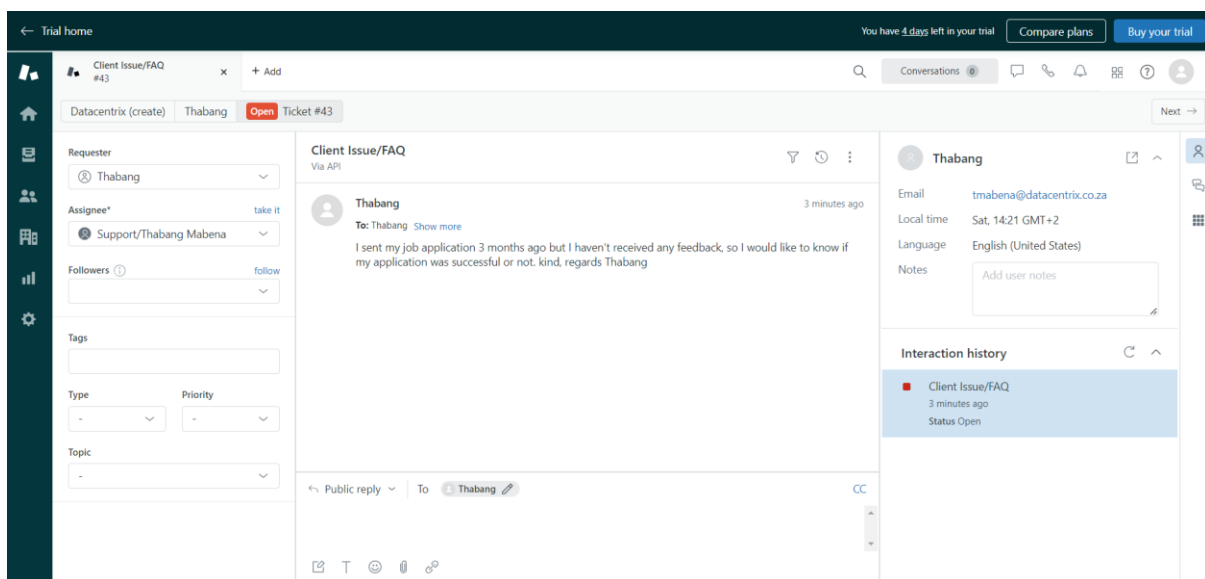
- If the user has an issue that the assistant can't solve, the matter is being escalated to the agent through **Zendesk**. The user must describe their problem in detail so that the support team can try to solve the matter.



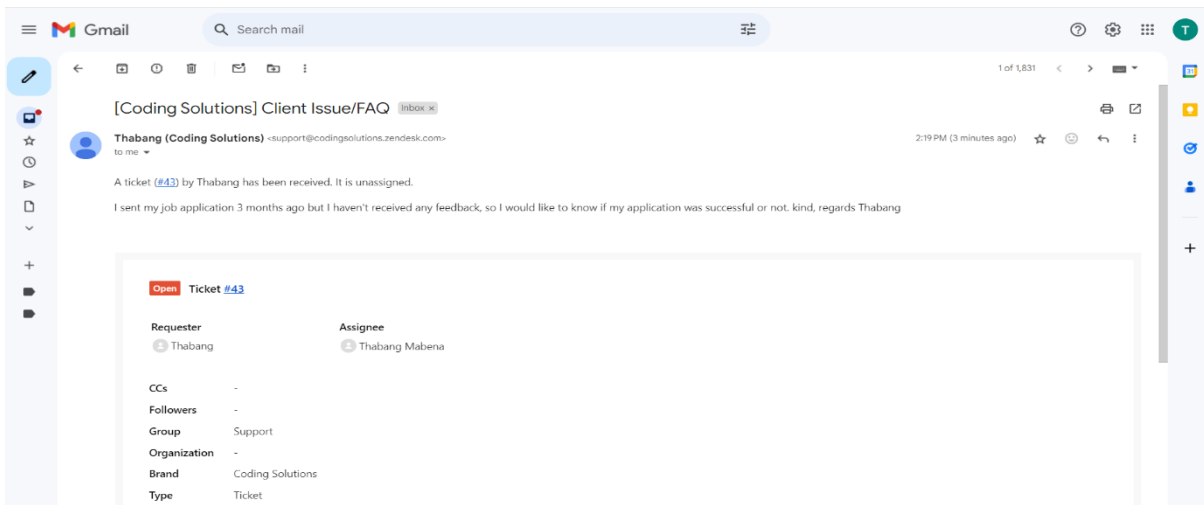
- Upon successful ticket creation, the Zendesk API returns the **ticket ID: 43** to the user.



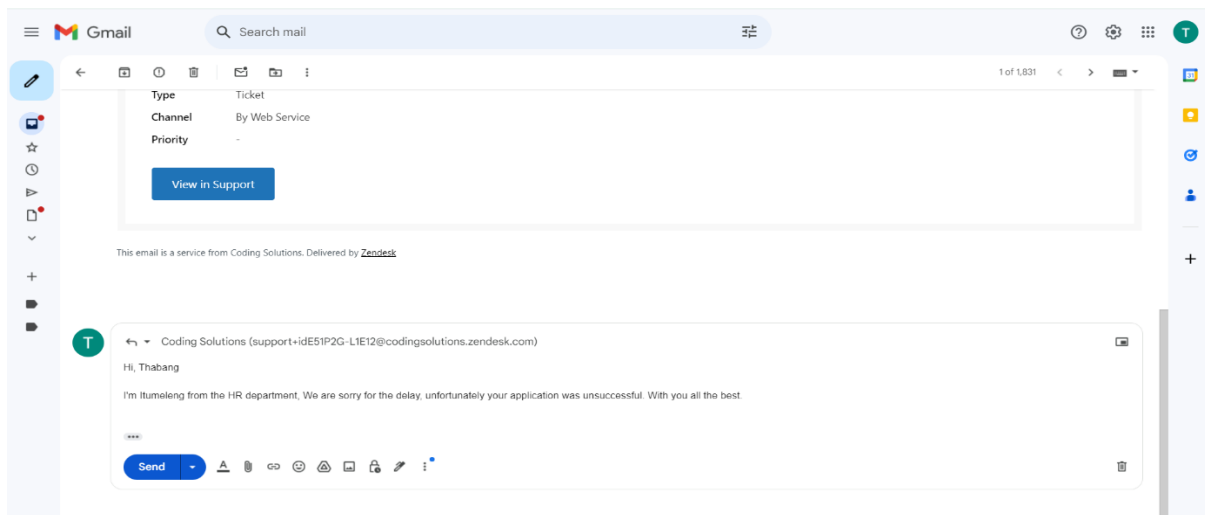
- Below is a **Zendesk** ticket dashboard with the ticket that the user has created:



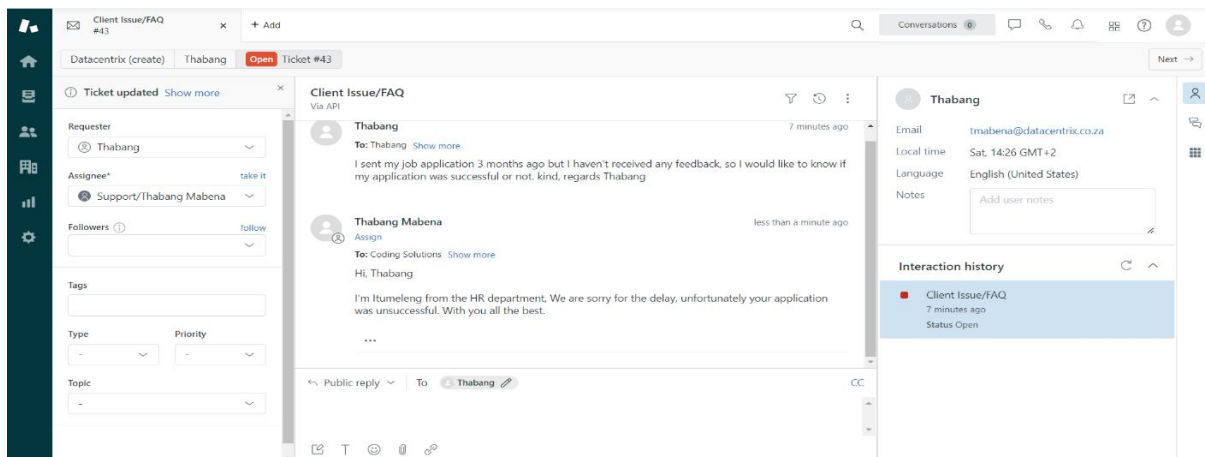
- The agent (HR team) is sent an email with the ticket information.



- The HR team replies to the user through an email.

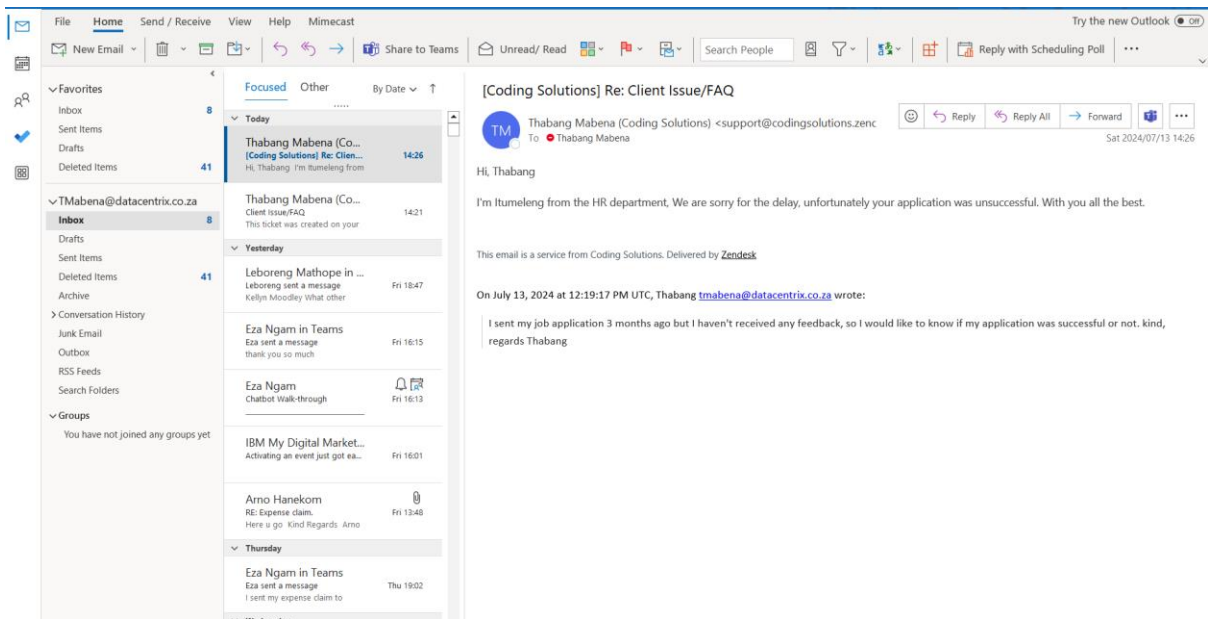


- The email that the HR team sent, also reflects on the Zendesk.





- The user receives an email from the HR team.



Trixie stands as a testament to the power of integrating advanced AI technologies to create intelligent systems that not only meet but exceed user expectations. Through continuous innovation and enhancement, Trixie aims to set new benchmarks in the realm of AI-driven customer engagement and support. Below are the variables used on the project:

The screenshot shows the IBM watsonx Assistant Plus interface. The left sidebar has a 'Variables' section with 'Created by you' selected. The main pane displays a table of variables.

Name	Actions count	Initial value	Description	Variable ID
Authenticated	7	false		Authenticated
clientEmail	8			clientEmail
clientFirstname	4			clientFirstname
clientLastname	4			clientLastname
clientPhone	4			clientPhone
clientID	2			clientPIN
discovery_date_version	1	2022-08-01	Discovery date versions are do...	discovery_date_version
discovery_project_id	1	7b83987a-55ea-4d22-8a06-...	You MUST set this value to the...	discovery_project_id
model_id	2	ibm/granite-13b-chat-v2	The ID of the model to be use...	model_id
model_input	2		input to the watsonx model	model_input

Actions					
All Items					
Created by you					
Variables					
Created by you					
Set by assistant					
Set by integration					
Saved responses					
Name	Actions count	Initial value	Description	Variable ID	
Tr model_parameters_deco...	1	greedy	The strategy used for picking t...	model_parameters_decod...	
model_parameters_inclu...	1		The value to control presence ...	model_parameters_inclu...	
model_parameters_max_...	1	256	The maximum number of new ...	model_parameters_max_n...	
model_parameters_min_...	1	1	The minimum number of new t...	model_parameters_min_n...	
model_parameters_rando...	1		A random number generator s...	model_parameters_rando...	
model_parameters_repet...	1	1.05	The penalty for penalizing tok...	model_parameters_repet...	
model_parameters_stop_...	1	[]	The strings which will cause th...	model_parameters_stop_...	
model_parameters_temp...	1	0	The value used to control the ...	model_parameters_tembe...	
model_parameters_time...	1		The amount of time in millise...	model_parameters_time_...	
model_parameters_top_k	1		The number of highest probab...	model_parameters_top_k	

Actions					
All Items					
Created by you					
Set by assistant					
Set by integration					
Saved responses					
Name	Actions count	Initial value	Description	Variable ID	
model_parameters_top_p	1		Similar to top_k except the ca...	model_parameters_top_p	
Tr model_response	2		The text generated by the mo...	model_response	
Tr passages	1			passages	
query_text	1		You MAY change this to pass q...	query_text	
search_results	1		Response object from Discove...	search_results	
snippet	1			snippet	
Tr ticket_subect	3			ticket_subect	
update_information	0			update_information	
userExist	2	false		userExist	
verbose	1	false	Prints debug output when true	verbose	
watsonx_api_version	1	2023-05-29	The version of the watsonx api...	watsonx_api_version	
watsonx_project_id	2	35bac4d8-7e92-4493-887a-...	You MUST set this to your wat...	watsonx_project_id	
welcomingMSG	6	true		welcomingMSG	

The End!!!