

# CHAT WEB APPLICATION

This is a web application that allows for communication through SMS, between registered twilio numbers and entered contacts. The application is built using Django framework for backend and Bootstrap for frontend.

It is integrated with the Twilio's API to post and get data through requests.

## Setting up the application.

Create a virtual environment for the application.

```
python -m venv env
```

Activate the virtual enviroment.

```
source env/bin/activate
```

Install the modules required by the application.

```
pip install -r requirements.txt
```

After all the requirements have been installed, run the application by starting the server.

```
python manage.py runserver
```

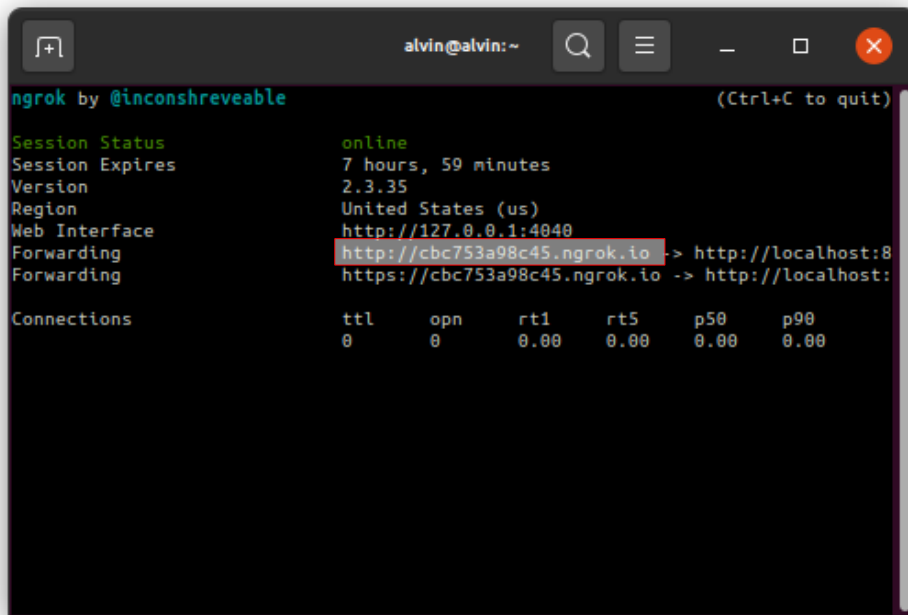
The application can now be accessed from the browser through "127.0.0.1:8000". You are now good to go.

But not really. At this point, most of the features of the application work, and you can have an idea of how it works, but the application cannot receive messages sent to your Twilio number (assuming you already have one). For this to be possible, the application should not be run locally. This could mean running it from a server, where it can be accessed externally.

Before hosting it on a server, the application can be tested using ngrok. Ngrok will help run the application globally with the host computer as the server.

```
ngrok http 8000
```

This will broadcast the port 8000. Find the ngrok web link from the terminal.



The link that is needed is "cbc753a98c45.ngrok.io".

Add the link to the settings of the application (settings.py), in the list labeled ALLOWED\_HOSTS.

```
21
22 # SECURITY WARNING: keep the secret key used in production secret!
23 SECRET_KEY = '2ilgg^lprc#56q4v0a)nb3q#2oa-wag@qotux#*%q=$(q+sp44'
24
25 # SECURITY WARNING: don't run with debug turned on in production!
26 DEBUG = True
27
28 ALLOWED_HOSTS = ["cbc753a98c45.ngrok.io"]
29
30
31 # Application definition
32
33 INSTALLED_APPS = [
34     'django.contrib.admin',
35     'django.contrib.auth',
36     'django.contrib.contenttypes',
37     'django.contrib.sessions',
38     'django.contrib.messages',
39     'django.contrib.staticfiles',
40     'chat',
41 ]
42
```

Save the settings.py file.

Log into your Twilio account to set the webhook for the sms request.

Under “All Products & Services”, select “Phone Numbers”.

Click on the phone number you would like to configure.

The screenshot shows the Twilio console interface. The top navigation bar includes the Twilio logo, a project name "My first Twilio...", a "TRIAL" status, and a breadcrumb trail: "Phone Numbers / Manage Numbers / Active Numbers /". A blue "Upgrade Project" button and a search icon are also present. The left sidebar contains a menu with icons and labels: "Phone Numbers", "Manage Numbers", "Active Numbers", "Released Numbers", "Buy a Number", "Verified Caller IDs", "Port & Host", "Regulatory Compliance", "Tools", "Usage", and "Getting Started". The main content area is titled "EMERGENCY CALLING" and shows a "Disabled" status with an "Enable Emergency Calling" button. Below this is the "Messaging" section, which includes a "CONFIGURE WITH" dropdown menu set to "Webhooks, TwiML Bins, Functions, Studio, or Proxy". Under "A MESSAGE COMES IN", there is a configuration row with a "Webhook" dropdown, the URL "http://cbc753a98c45.ngrok.io/sms", and an "HTTP POST" dropdown. A similar row is shown for "PRIMARY HANDLER FAILS" with an empty URL field.

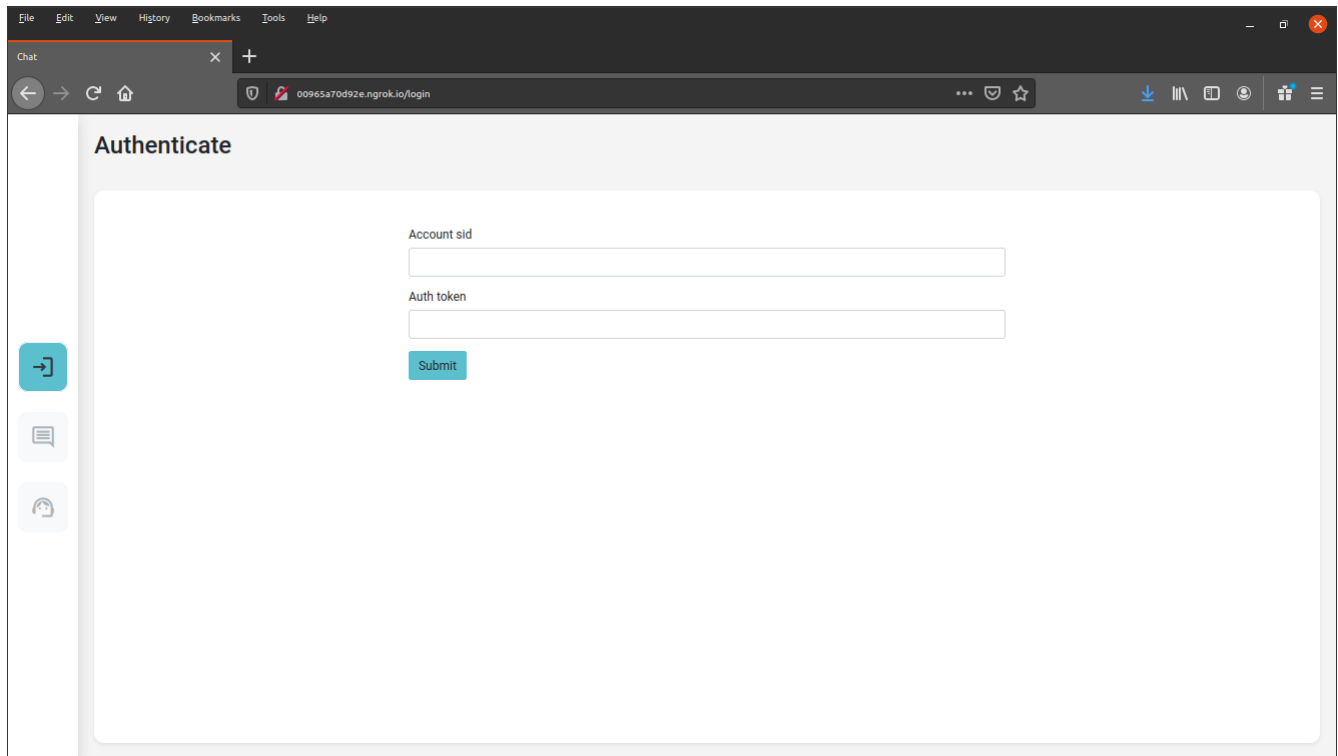
Add the link "http://cbc753a98c45.ngrok.io/sms", and then click "save" to allow SMS to be received by the application.

Now load the web address "cbc753a98c45.ngrok.io" in the browser to start the application.

# Using the Application

## i. Authentication.

This is where the *Account SID* and *Authentication Token* are entered to authenticate the user. This is very important since it determines the Twilio account that will be used by the application. Without that information, the application can not be used. In case you are missing a Twilio account, create one [here](#).

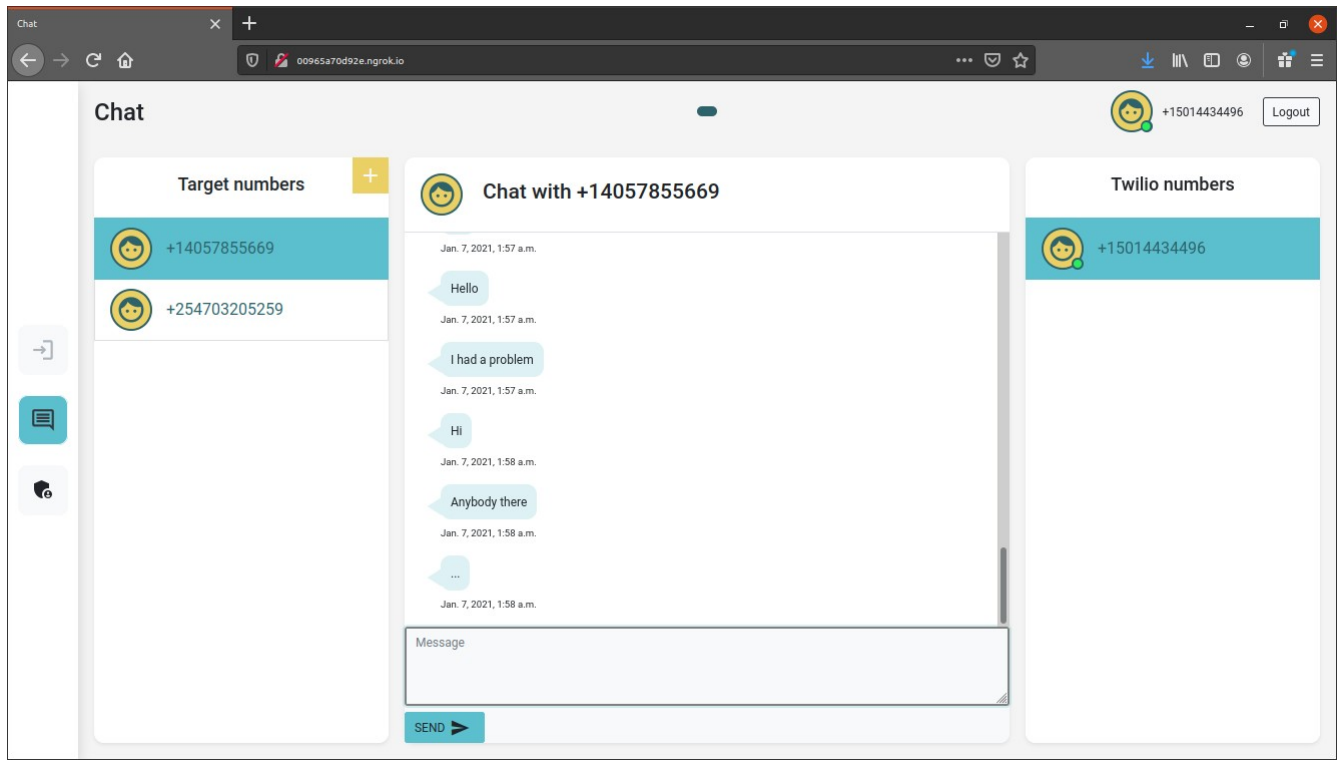


The screenshot shows a web browser window with a dark theme. The address bar displays the URL `00965a70d92e.ngrok.io/login`. The page title is "Authenticate". The main content area contains a form with two input fields: "Account sid" and "Auth token". Below these fields is a blue "Submit" button. On the left side of the page, there is a vertical sidebar with three icons: a teal square with a white right-pointing arrow, a speech bubble, and a clock.

Visit the [console page](#) to get your *Account SID* and *Authentication Token*. After you enter the correct data for authentication, click on "Submit" and you will be redirected to the chat page.

## ii. Chat

After a successful login, the next page is the chat page. This is where all the chatting goes on.




The page is divided into three sections.

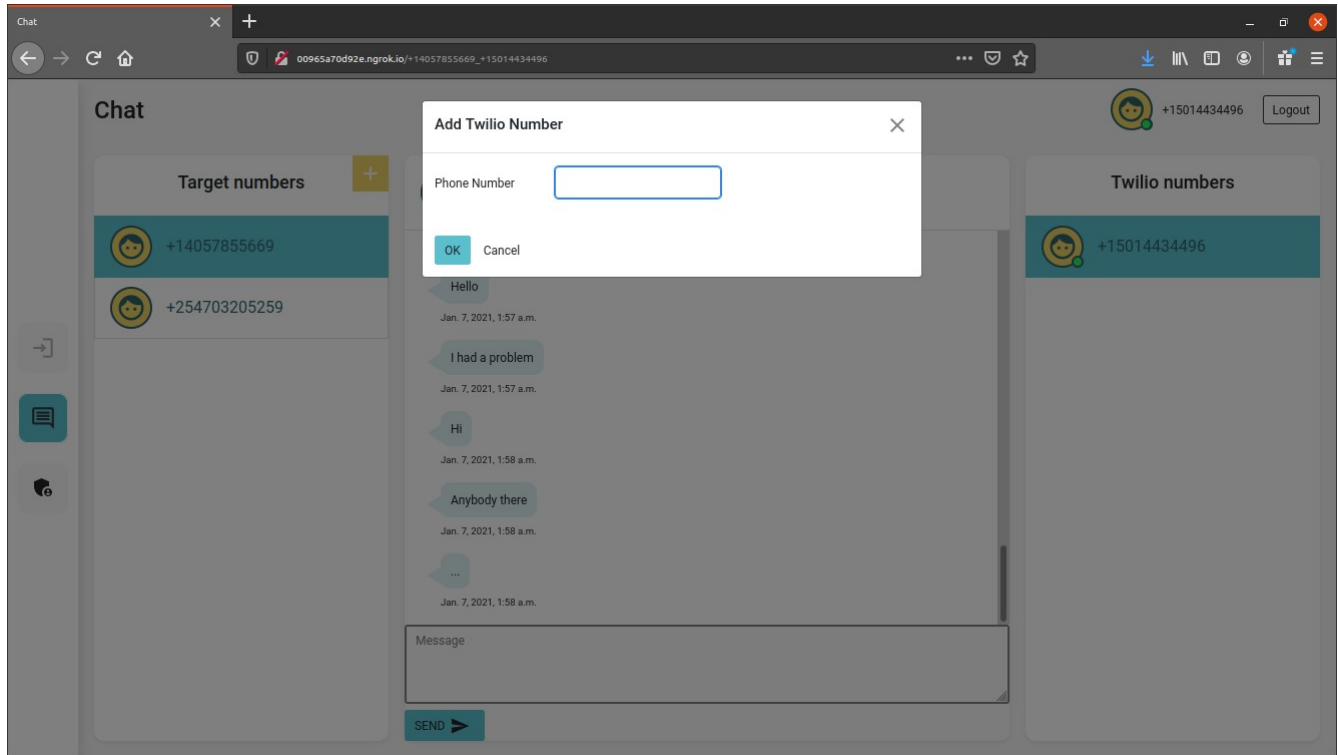
- The left section for the “target numbers”. These are the numbers that are contacted by the account’s Twilio numbers.
- The middle section for “chat”. This is where messages sent back and forth are displayed.
- The right section for the “twilio numbers”. These are the numbers owned by the Twilio account, and can be used to contact other numbers.

Clicking on a phone number in the “target numbers” will display its chat messages with the number selected from the “twilio numbers”.

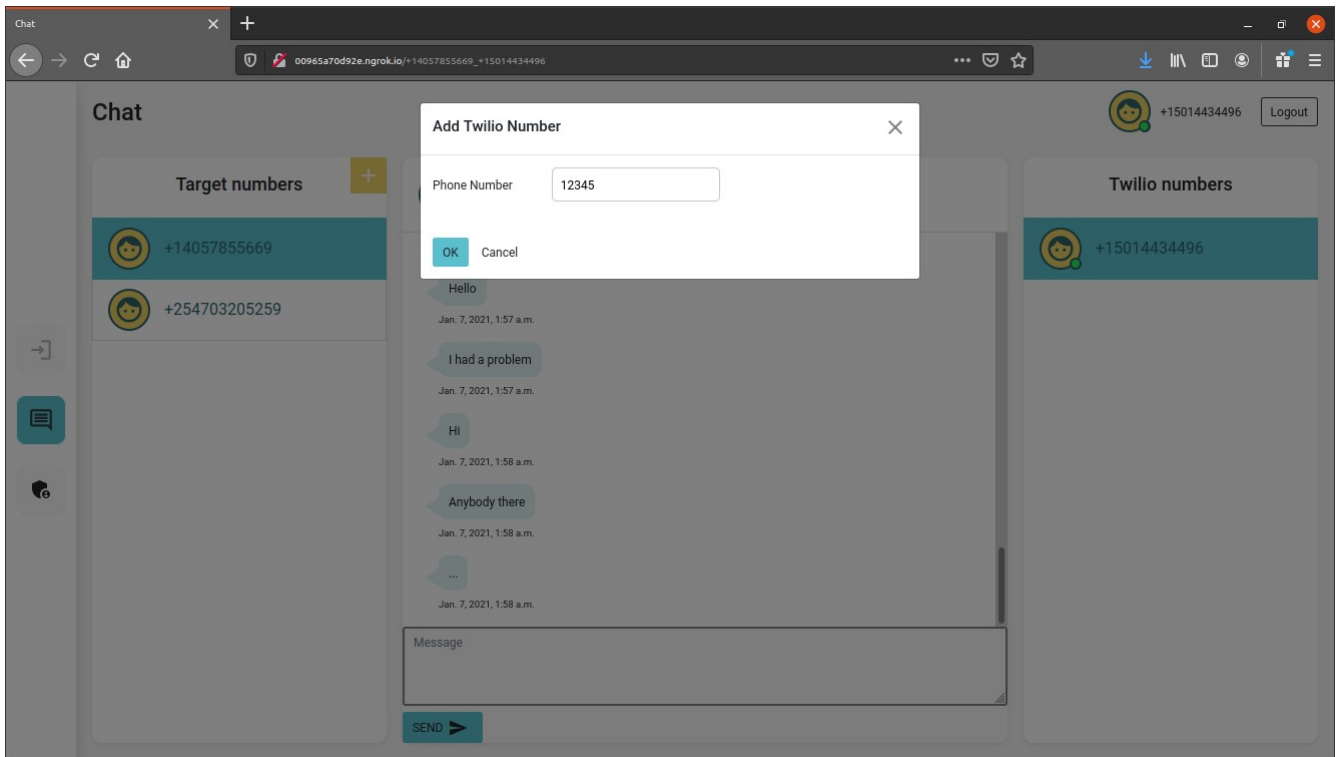
Sending a message to a target number is as easy as typing in the message area and clicking send button.

To add a new target number to the application, click on the  at the right top of the target numbers section.

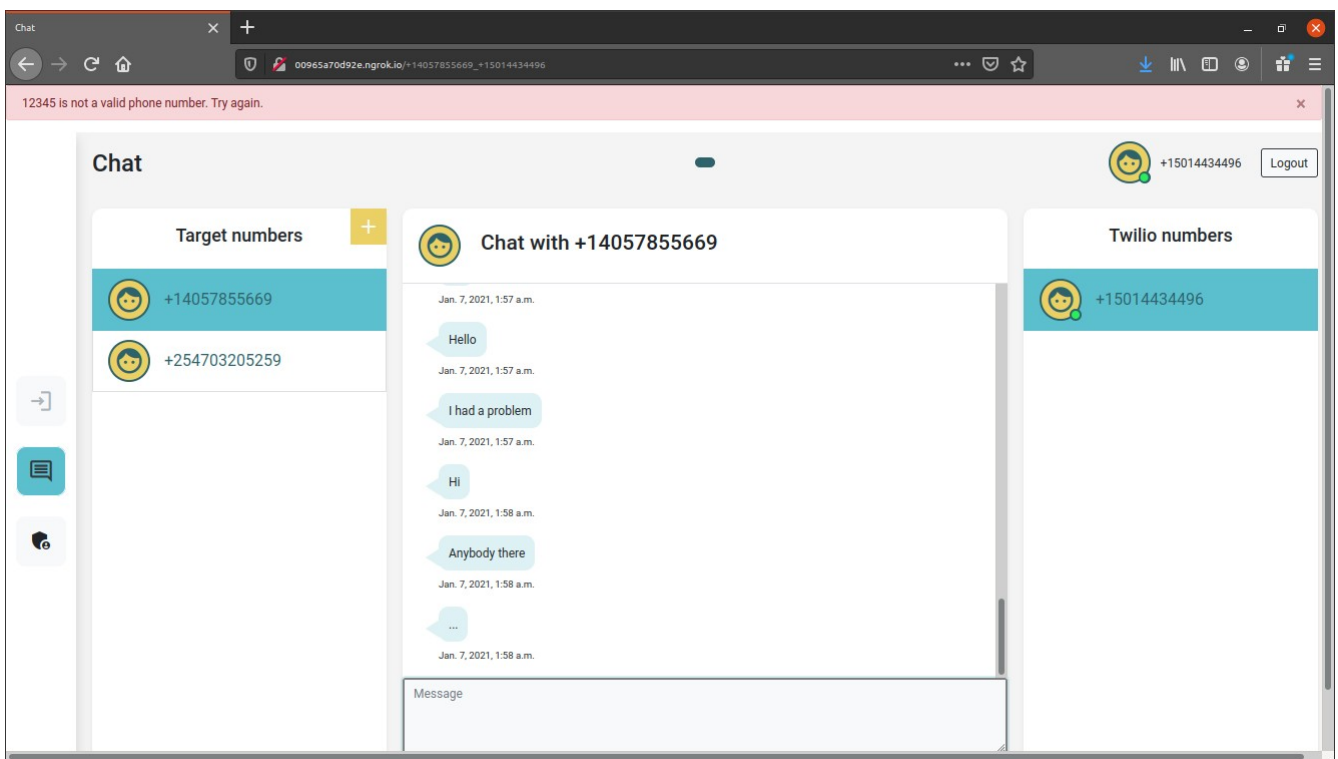
This will trigger a modal that will prompt you to enter the phone number you would like to add to the target numbers.



Pressing OK will add the number to the target numbers, only if the number is valid.

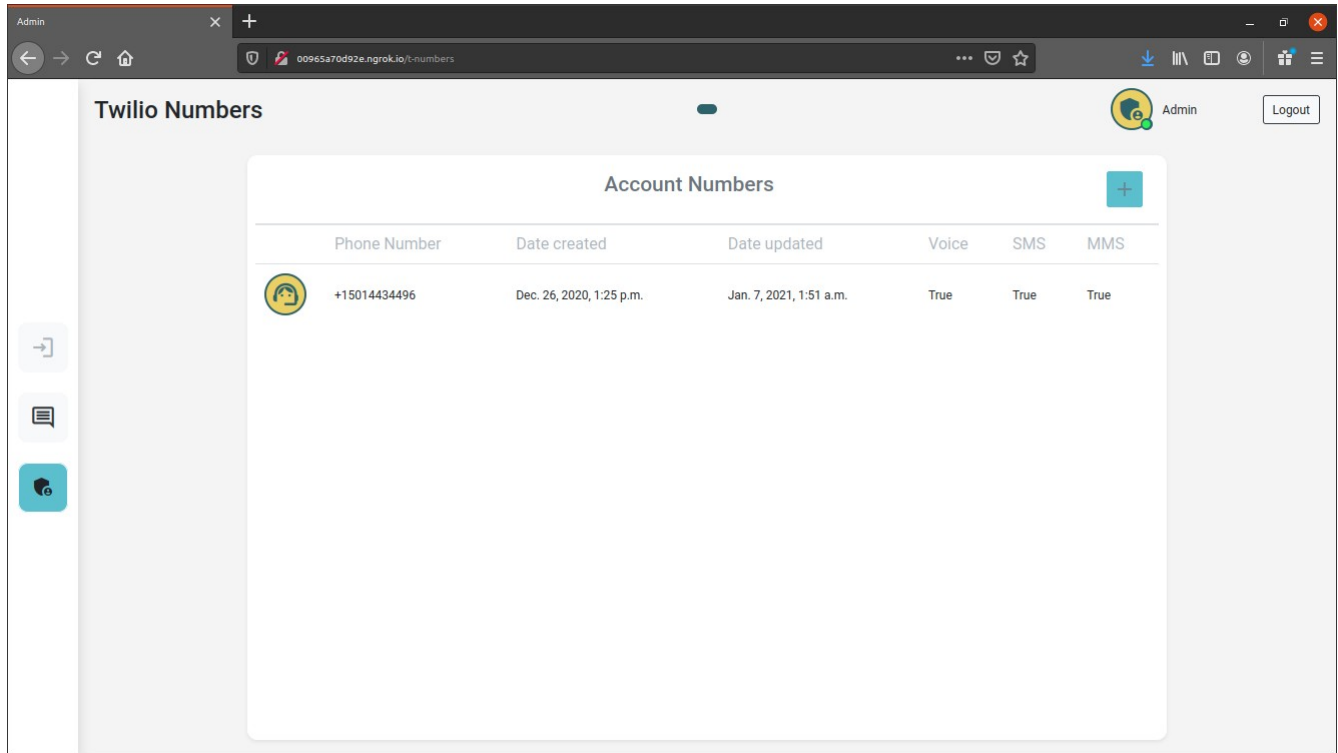




In the case of an invalid random number 12345, an alert will appear at the top informing that the number selected is invalid.



### iii. Admin.

The admin page is for administrator tasks like adding a new twilio number to the account. The admin page home displays all the twilio numbers in the account, and gives information about each phone number.



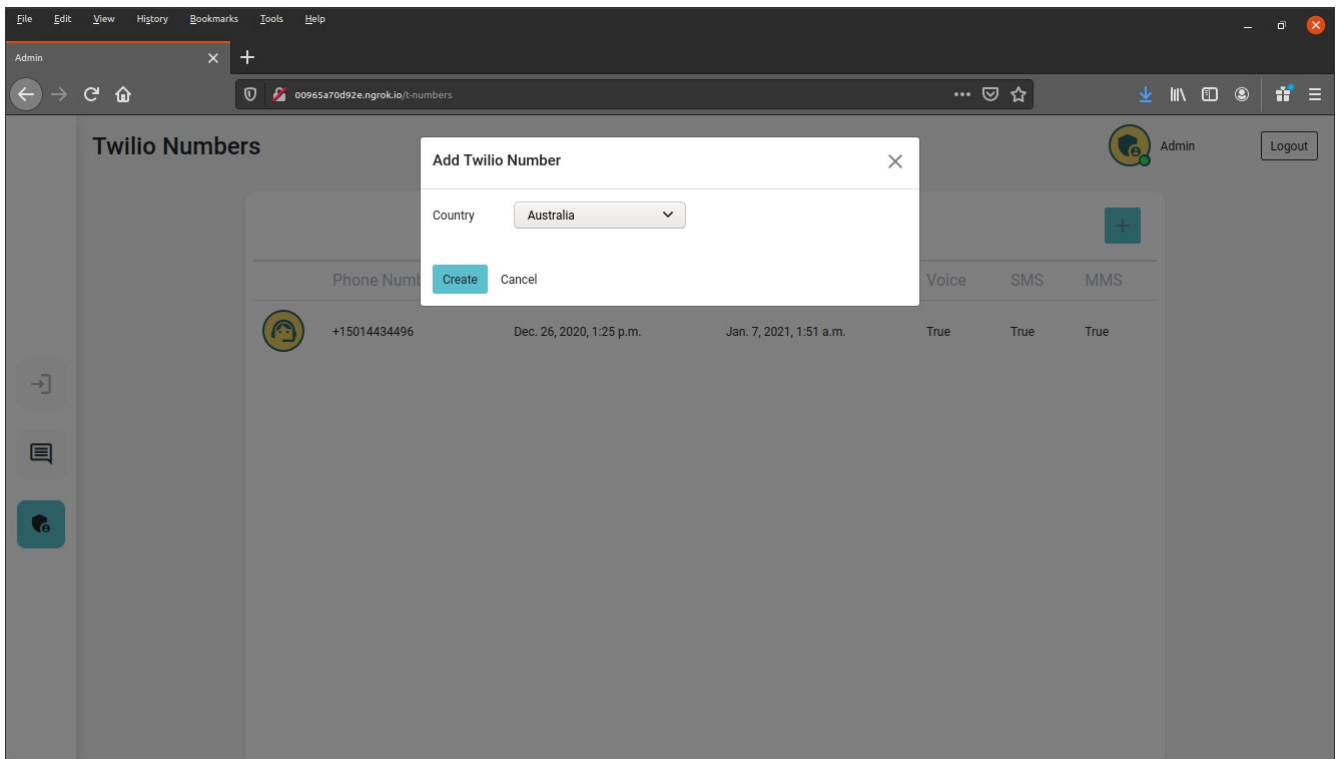
Account Numbers						
Phone Number	Date created	Date updated	Voice	SMS	MMS	
 +15014434496	Dec. 26, 2020, 1:25 p.m.	Jan. 7, 2021, 1:51 a.m.	True	True	True	

To add a new number to the twilio numbers, click on the

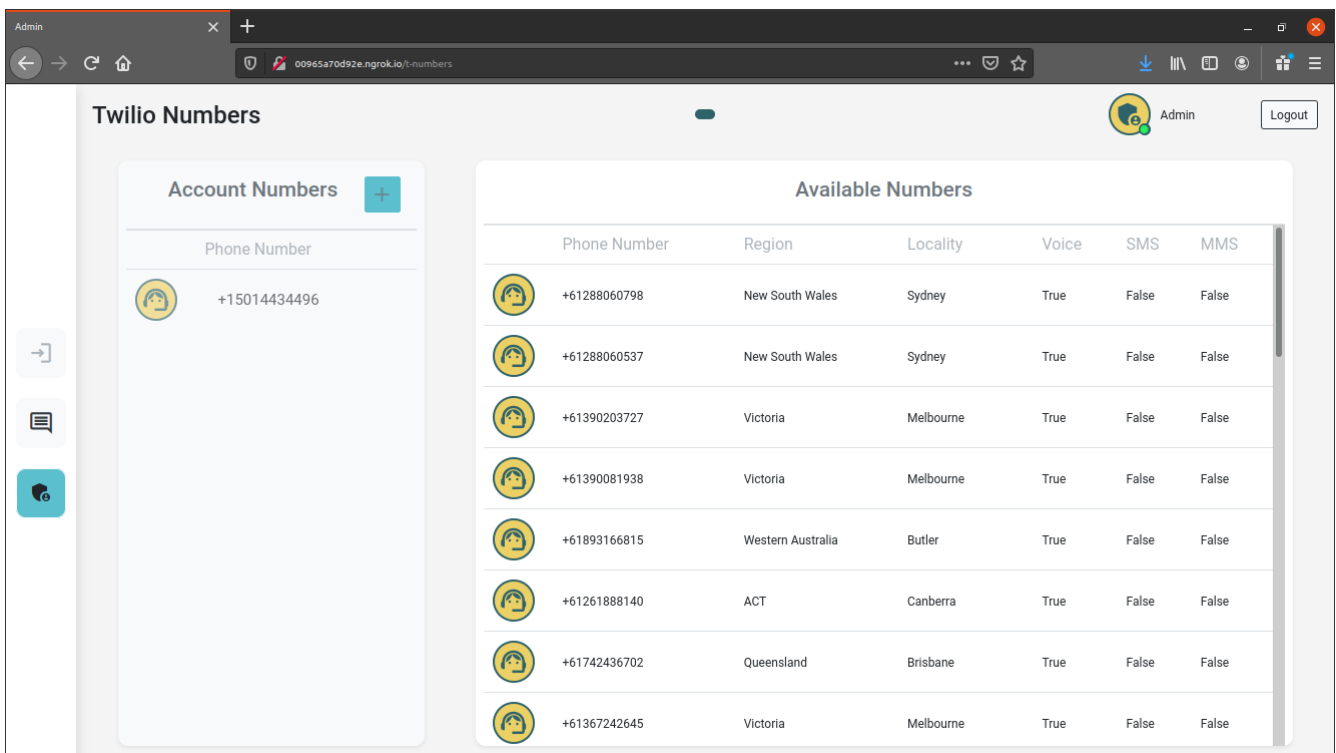


button. This will trigger a modal that will prompt the selection of the phone number country.





After selecting the country, click on “Create”.  
This will display the “Available Numbers” section which lists the Twilio numbers available for the given country.



To select a given phone number, just click on it.  
In case the operation fails, an alert will appear, giving information on the same.

Admin

00965a70d92e.ngrok.io/tw-numbers

Unable to create record: Trial accounts are allowed only one Twilio number. To purchase additional numbers, please upgrade your account.

Twilio Numbers

Admin

Logout

Account Numbers

Phone Number	Date created	Date updated	Voice	SMS	MMS
<div><div></div><div>+15014434496</div></div>	Dec. 26, 2020, 1:25 p.m.	Jan. 7, 2021, 1:51 a.m.	True	True	True

#### **iv. Logout**

To logout the Twilio account in use, click on the “Logout” button at the top right corner of the page. This will remove the current account, deleting all the present cache files. It will then redirect to the authentication page for a fresh login.