# Deploy a Python app on Heroku cloud for free

## Introduction

do you want to migrate your application from your pc onto the cloud or in simple word i'm saying do you want to deploy your application on the cloud if yes then you are at the right place you can transfer the necessary file onto the cloud and let the cloud platform manage all your application the cloud will execute the application in the same way as it was being executed on your pc now you can turn off your pc and your program will execute and serve as many as customer you want

in this video you will learn to deploy a python application on the heroku cloud platform step by step i am going to deploy the same application that i have talked in the previous video which was to send a notification on the telegram whenever a vaccine is available on the specified pin code. it will keep on searching from the cloud itself and then triggered message whenever a vaccine is available message will appear on the telegram

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## Create GitHub Repository

so this is the github page of ai python you will find a lot of repository related to python projects for absolutely free for this video i have also created repository with the name deploy python on heroku right and creating repository is very easy on github right you can go ahead go head over to your overview section and go to repository and then from here you can click new and you can provide the name of your repository anything right and provide some description and make even if you want to make it public so that other people can use it and download it then you can make it public otherwise you can keep it private if you want to use for yourself and then use add readme button just to start a readme file and even if you want to ignore some file you can choose that one license is not required most of the time so that's that's it you can click on the create repository it will be created right once the repository is created so it will look similar to this

## Understanding each file

the files and we will talk about what file we need for this application the first thing that we need is the python file which is for me it is vaccine underscore on underscore pin code this is the python file that i have uploaded from my desktop local desktop right this git attribute and readme file will be automatically generated by github now we need to add these three files the first one is proc file the second one is requirement.txt and third one is runtime.txt i'll talk about all of this in detail and what is actually inside this file these three files are very important in order to deploy your application on heroku which we will talk in the next section but in this section we will understand what are the content of this file right so let's start with the runtime text and by the way you can create all this file in your system and upload it here or by default you can create it here also directly on github so to do that just go to add file you can create new and then you can create anything right so let's get started the first one runtime.txt file contain a single line which is i'm specifying which version of python i need to run this application for me it is python 3.7.10 right so you can write python all in small minus or hyphen 3.7.10 this is the one line that you have to include in runtime.txt that's it save it and close it now moving to the second one which is requirements.txt so this requirement.txt basically contains all the dependent third-party modules that you are using in your application so that the cloud will read this file and install these packages along with your application so that it runs smoothly on the cloud okay the two package that i'm using is requests and python however these two can automatically be created using pip freeze command in case if you don't want to use freeze command you can directly check the respective modules name from python and then write it as it is like for for me requests equal to equal to 2.25.1 so this is the version of request module that is installed in my system and hopefully i want to install that i want to use the same in my cl on my cloud application also similarly the other one is pi tz and byte is at equal to equal to 2019.3 this is the module that is installed this is the version of python on my system and i want to use the same one so this is the two line or it can be any uh number of library that that is required by your application but for this application these two libraries are enough right and this is the third party library if in case if you are not using any third party library you can ignore this one and even you don't have to write requirement or text it will work fine okay then the third one is which is proc file and if you notice it clearly there is no extension like txt like txt here right for the requirements file i need extension txt for runtime also i need extension txt but for proc file you should not write any extension so you need to create proc file without any extension right okay so let's see what is the content of proc file this proc file will basically help the heroku cloud to choose the particular python file in this case this vaccine on pin code is the file that i want to run so which application will run this dot py file right so in this case python is the application which is going to run this file so this is what i have defined here and the format will be similar here worker then colon the name of the is executed which is python name of the file which will be executed in this case vaccine on pin code dot pi right so when you when the worker says go to python it will go to runtime.txt and find out which version of python is there so in this way the cloud completely understand the whole chain and this is what we need to import which this is what we need to configure in our github repository and why we are doing this is because we are not going to upload all the files on the cloud directly instead we are going to deploy everything on the github and this github will be synced with the cloud heroku will connect to the github that we are going to understand just in the next step and from their connection from that connection it will pull all these data to their server and use it to deploy the application on the cloud and start executing it so that is the reason we are using github in between okay i hope you understand so let's move on to the next section where we will understand how to create application how to give a name to the application on the cloud and sync and connect this github and sync all the file between both these two platform right it will be very simple

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so i have logged into hiroku dashboard hiroko is basically a cloud application platform where you can deploy application in multiple languages so here the list of languages that it supports you can do it in any language for the time being i'm focusing on python and will be creating application on python right okay so this is the interface that it look like without any app to create an app you have to click here create new app right and then write a name uh for this case i'll be writing test underscore maybe ai python underscore youtube right and as you can see here this name should only contain lower cases letters numbers and dashes so i'll replace underscore with dashes so that it'll work this is the requirement of this application right and it says name should only contain lowercases and yt is an uppercase so i'll make it to lowercase and you can see this is accepted and it says yes you can go ahead this name of application is available in case if you don't find the name you can try with the different name it will work as far as reason is concerned you can select either united state and europe unfortunately these are the two default regions that is displayed in this application so anyway you we don't have to bother about this so go ahead and create an application right create app so it'll ask certain things let's see what it is uh although there are a lot of other features here like adding this app to a pipeline which will not talk about it it is basically for continuous improvement in case you want to make it in a ci cd principle where continuous integration and continuous deployment is there and you want to add certain blocks of code in between so i'll talk about the pipeline let's let's forget it leave this topic then we focus on the deployment method the first tab it will come after application is the deploy method and we are at the deploy tab now if you see this section deployment method there are various methods you can use but right now we will focus on github because we have all the code available on the github so click on the github it will ask you to connect with the github account you can write the name of the github account that you want to connect and then it will ask for the repository name so i will copy the name from here and then i'll paste it here and click on search button it will search if this repository is available on this github page right and it will it says that yes it is found in my case it is found ai python underscore deploy python heroku i will simply go and connect i wanted to connect with this particular repository where all the files are there right okay so you can see the status connected so that means now this heroku has a connection with github right and it can exchange the file now let's see the next option next option says automatic deploy automatic deploy means whenever you make any changes in the github whenever you push a commit to the github it automatically deploys the code onto heroku platform as well after after making changes in the github you don't have to come back to heroku and again i have to manually update it as well as you can choose to manually deploy the code so in this case i'll choose you know i'll choose to automatically deploy the codes and i'll enable the automatic deploys before that please check with the branch if you have any branch which you want to deploy for example you have created n number of branches for that particular repository you can choose any one of the branch to deploy on this cloud right for this i'll be choosing main so i because i don't have any other branch right now so i'll click on enable automatic deploy so it is now set to enable deploy so whenever i make changes to the main branch of my file in github it automatically gets deployed onto the hero all right so for the first time you can also choose to deploy it manually so that the current state is deployed so you can click on deploy branch you will see some of the activities going on where you will see that this python 3.7 is being installed on the cloud platform along with the dependencies for example these are the default tech pip setup tool wheels and sqliter default and you if you have seen um that requirement.text is also satisfied and it is now checking the proc file which says uh worker right everything is happening you can also look at the view log from the activity page right and you can see that this is this is deployed on heroku so now the application has been deployed right you can also check this from the overview you can check that there is one deploy from this email id right from this user and also the history right now you can see the the build success and it is deployed right now if you go to the resource page it will take some time maximum five minute to the dyno to appear dyno is basically an engine which helps you to run all the application and for on the cloud for this kind of account that i'm using it will be free of cost they'll give you a free dyno obviously with certain limitation that you can make number of calls or you can run your dinos for certain hours restricted hours right this is why they have giving a free account and there is no charge for that as far as the education purpose is concerned and if you want to make anything you want to deploy anything on this one it is free of cost you will not have to pay anything right now so we'll wait for some time till the dyno appear here you can also go to the settings section to understand various information about your app which says like which is the reason what is the name of the app which is the reason what is the stack and the framework slug size this is the application size with the combined library and all and what is the repository that it is using and hiroku get link this is basically entire with the heroku and the git so you'll find the application over here okay so this is all pretty much now let's go back to the resource i think dino will be available and yes you can see the free dinos with the the free dino is available here with the name worker python vaccine python code right now we need to simply enable this one and once we enable this the dyno will be active and whatever code we have deployed on our heroku application will start executing and this is what we are going to understand in the next section how the application work and send notification on telegram directly from the cloud

in this section you will see the application in action so i have already deployed everything now now the code is deployed on the hiroku and i'm ready with my telegram group which is configured with this account right and i've talked about this creating telegram group and how you can send a message from python how you can send a message from python directly to this telegram right you can check out the video which is linked for the same is available in the description as well as in the flash card shown at the top right corner of this video okay so as you can see side by side this is my telegram channel and this particular channel is the channel that i've created for receiving the vaccine information although there are a lot of messages before so i'll just give a kind of starting message that everything after this message will be a result of the execution of this program so that it will act as a reference for you okay now keeping this aside we will see once we enable this dino do i am getting the messages on this channel or not on this group or not right so to enable this dino click on here and then activate it and then confirm once as soon as you confirm it you will see the messages so first you have you can go here and check the build status and just for your reference the messages started coming and also you can see all the informations are here available here at the same time see whenever the vaccines are available let's wait for 20 second and then see yeah see all the message like 11 0 2 8 and the same information is also available here right as you can see in the telegram channel all right so you have deployed your application on cloud and you are getting messages on telegram what's more you can ask your friends colleague or even your relative to to join on this particular telegram group get the vaccine availability the best part is you are now not executing your script from the laptop it is basically cloud which is now working for you 24x7 and the telegram is also managed by someone else right both parties are managed by someone else you are able to establish a sync between both of them and you are able to receive the services enjoy and have a great time that's it for this video i hope you have learned something new in this video please help us by sharing this video in your network we read each comment and reply them in case if you have any doubt related to this video then do write them in the comment section we will reply see you next time with another exciting and informative content i'll be preparing the next video for you till then keep learning and keep growing

## Tags

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