

# LEARN HOW TO BUILD A DISCORD BOT

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# INTRODUCTION TO DISCORD BOTS

- What is a Discord Bot?
    - An automated program that interacts with users on a Discord server.
    - Can perform tasks like moderation, reminders, games, or fetching data.
  - Why Use Python?
    - Simple and beginner-friendly syntax.
    - Strong community and libraries (e.g., discord.py).
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# PREREQUISITES

- What You'll Need:
  - Python installed on your computer.
  - Basic knowledge of Python.
  - VS Code (For development and debugging)
- A Discord account.
- Libraries to Install:
  - discord.py

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# SETTING UP YOUR BOT

- Create an App on the Discord Developer Portal - <https://discord.com/developers/applications/>
  - Navigate to "Applications" and click "New Application."
  - Select Bot menu, Reset the token. And then copy the token.
  - Navigate to "Privileged Gateway Intents", and select toggle "Message Content Intent" on.
    - From the permissions list, select Send Messages, Manage Messages, and Read Message history.
  - And save changes.
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# WRITING YOUR FIRST BOT

- Create a directory, HelloWorld.
  - Open VS Code with HelloWorld directory.
  - Create Python environment (optional).
  - Create a python file – bot.py
  - Then run the command – pip install discord.py
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# WRITING YOUR FIRST BOT - CODE

```
import discord
from discord.ext import commands
import os
discord_bot_token = os.environ["DISCORD_BOT_TOKEN"]
intents = discord.Intents.default()
intents.message_content = True
bot = commands.Bot(command_prefix="!", intents=intents)
@bot.event
async def on_ready():
    print(f"Logged in as {bot.user}")
@bot.command()
async def hello(ctx):
    await ctx.send("Hello, world!")
bot.run(discord_bot_token)
```

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# WRITING YOUR FIRST BOT

- Open the terminal, run `python bot.py`, if successful, it will display something like this

```
PS D:\Workshops\Hello-Discord-Bot> python .\bot.py
2024-12-27 11:46:14 INFO      discord.client logging in using static token
2024-12-27 11:46:17 INFO      discord.gateway Shard ID None has connected to Gateway (Session ID: 68ad4bfea3a265a8affca5be9c5a48f5).
Logged in as helloworld#5311
█
```

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# INSTALLING BOT ON DISCORD SERVER

- Open the discord developer portal - <https://discord.com/developers/applications/>
  - Select the application created, navigate to OAuth2.
  - In the OAuth2 page, navigate to OAuth2 URL Generator
    - Select the Bot scope.
  - From the Bot permissions, select Send Messages, Manage Messages, and Read Message history.
  - Copy the Generated URL and paste it in the browser.
  - In the screen, select the Discord server and click on the Authorize button.
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# DEPLOYING THE BOT

- Create Dockerfile for the Bot.
  - Build the docker image using the command `docker build -t anuraj/hello-discordbot .`
  - Run the docker container – `docker run -env DISCORD_BOT_TOKEN=BOT_TOKEN`
  - Verify you can interact with the bot.
  - Now stop the container, and deploy the image to any container registry Azure / AWS / GitHub.
  - And deploy the container from the registry to ACS / ECS or any other container service.
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# ADDING MORE FEATURES, ERROR HANDLING

- Adding Commands:
  - Create custom commands with `@bot.command()`.
- Error Handling:
  - Handle errors gracefully with `on_command_error`.
- Background Tasks:
  - Use libraries like `apscheduler` for tasks like countdowns or reminders.

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# Thank you Happy Hacking :)

Source code and presentation :

<https://github.com/anuraj/Build-your-own-discord-bot>

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