🔍 **What happens when you run `docker run ubuntu`?**

1. **Check for the Image Locally**: Docker first checks if the `ubuntu` image exists on your local machine.

   - If **not found**, Docker will **pull** the latest Ubuntu image from Docker Hub (official registry).
   - If **found**, it skips pulling and uses the local version.

2. **Create and Start a Container**: Docker creates a new **container instance** from the Ubuntu image and **runs the default command**.

   - The **default command** in the Ubuntu image is usually:

     ```
     CMD ["bash"]
     ```

   - But since you didn't pass `-it`, **you won't see an interactive shell**, and the container will likely **exit immediately** because there's nothing to keep it running.

🫠 So why does it exit immediately?

- Containers need a **foreground process** (like a shell or server).
- Without `-it`, the container runs `bash`, but since no input/output is attached, it just runs and **exits right away**.

☑ The Role of `-it` (Very Important!)

Here's what happens when you run:

```
docker run -it ubuntu
```

🧩 Breaking down `-it`:

Flag	Full Form	What it does
`-i`	--interactive	Keeps STDIN open, so you can **send input** (like typing into a shell).
`-t`	--tty	Allocates a pseudo-TTY (like a terminal), so the output looks **human-readable** and interactive.

◎ **Together, `-it` means**:

- You get an **interactive terminal session** inside the container.
- It **attaches your keyboard and screen** to the container's terminal.

☑ Example with `-it`:

```
docker run -it ubuntu
```

- This will:

    - Pull Ubuntu image if not already present.

    - Create a container.

    - Run the default shell (bash) in interactive mode.

    - Give you a terminal prompt like:

        ```
        root@a1b2c3d4e5:/#
        ```

🧪 You can also run specific commands:

```
docker run -it ubuntu bash
```

- Explicitly tells Docker to run bash shell interactively.
- Useful if you want to ensure you're in a shell and not relying on image defaults.

🛠️ Other Common docker run Flags:

Flag	Purpose
--rm	Automatically remove the container when it exits.
-d	Run container in detached mode (in the background).
-p	Publish container port to host (e.g., -p 8080:80).
--name	Give the container a specific name.
-v	Mount volumes (e.g., -v /host/path:/container/path).

📦 Summary:

Command	What it does
docker run ubuntu	Runs Ubuntu container with default CMD, but exits immediately (no -it).
docker run -it ubuntu	Launches Ubuntu in an interactive terminal (bash).
docker run -it ubuntu bash	Explicitly runs bash interactively.

Command	What it does
`docker run -it --rm ubuntu bash`	Interactive session that cleans up the container after exit.

Want to try it?

```
docker run -it ubuntu bash
```

Then type `ls`, `pwd`, `apt update` etc. — you're inside a real Linux container now! 🐱💻