

# Installing URSim on Windows 10

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Follow these steps to get URSim running via Docker on Windows 10 probably also works for Windows 11 but I haven't tested it.

## 1. Install Docker Desktop

- **Download and Install:**

Visit the [Docker Desktop download page](#) and install it.

- **Prerequisites:**

- Ensure virtualization is enabled in your BIOS.
- If you're on Windows 10 Home, set up WSL2 as Docker Desktop requires it.
- Confirm that Docker is set up to use Linux containers (default setup).

## 2. Prepare an X Server for the GUI

URSim has a GUI, and Docker containers on Windows don't natively display GUIs. You'll need an X server to forward the display.

- **Recommended X Server:**

[VcXsrv download link](#)

- **Install and Configure:**

After installing VcXsrv, launch it and allow network connections so that the container can forward its GUI to your Windows desktop.

## 3. Pull the URSim Image

Open PowerShell or Command Prompt and run:

```
docker pull universalrobots/ursim_e-series
```

This command downloads the URSim simulator image.

## 4. Start Docker Desktop

Run `docker desktop start` in powershell.

```
docker desktop start
```

## 5. Start docker dekstop and run the URSim Container with GUI Forwarding

Since Windows doesn't support Linux's `--net=host`, you need to manually map the display. Assuming VcXsrv is set to listen on display 0, run:

```
docker desktop start;
docker run --rm `
  -e DISPLAY=host.docker.internal:0 `
  -p 30001-30004:30001-30004 `
  -p 29999:29999 `
  universalrobots/ursim_e-series
```

This command tells the container where to send its GUI.

## 6. Troubleshooting

- **No GUI Display?**

- Make sure VcXsrv is running and accepting connections. If not, open **XLaunch**.
- Check that your firewall isn't blocking the connection.
- Verify that the display number (0) matches your VcXsrv configuration.

- **Port Mapping Issues?**

The container might require additional port mappings depending on how URSim is set up. You can use `-p hostPort:containerPort` to forward ports if needed.

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Follow these steps, and you should have URSim up and running on Windows 10!