Running Containers Locally

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Overview

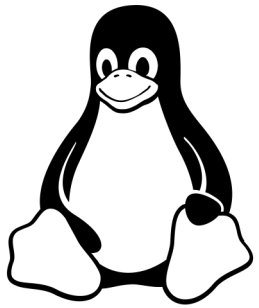
Installing Docker

- Docker Desktop for Windows

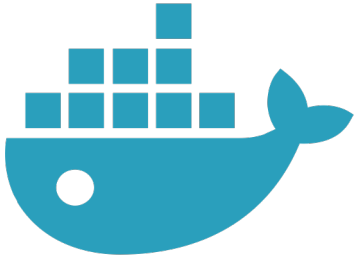
Using Docker

- docker run
- docker ps
- docker logs
- docker exec
- docker images
- docker volumes
- docker rm

Installing Docker in Production



Installing Docker Locally



https://docs.docker.com/install/

https://docs.docker.com/get-docker/

Get Docker

Docker is an open platform for developing, shipping, and running applications. Docker enables you to separate your applications from your infrastructure so you can deliver software quickly. With Docker, you can manage your infrastructure in the same ways you manage your applications. By taking advantage of Docker's methodologies for shipping, testing, and deploying code quickly, you can significantly reduce the delay between writing code and running it in production.

You can download and install Docker on multiple platforms. Refer to the following section and choose the best installation path for you.

Docker Desktop for Mac

A native application using the macOS sandbox security model which delivers all Docker tools to your Mac.

Docker Desktop for Windows

A native Windows application which delivers all Docker tools to your Windows computer.

Docker for Linux

Install Docker on a computer which already has a Linux distribution installed.

Install Docker Engine

Estimated reading time: 5 minutes

Supported platforms

Docker Engine is available on a variety of Linux platforms, macOS and Windows 10 through Docker Desktop, and as a static binary installation. Find your preferred operating system below.

Desktop

Platform	x86_64 / amd64
Docker Desktop for Mac (macOS)	✓
Docker Desktop for Windows	✓

Server

Docker provides `.deb` and `.rpm` packages from the following Linux distributions and architectures:

Platform	x86_64 / amd64	ARM	ARM64 / AARCH64
CentOS	✓		✓
Debian	✓	✓	✓
Fedora	✓		✓
Raspbian		✓	✓
Ubuntu	✓	✓	✓

https://docs.docker.com/docker-for-mac/install/

Install Docker Desktop on Mac

Estimated reading time: 5 minutes

Welcome to Docker Desktop for Mac. This page contains information about Docker Desktop for Mac system requirements, download URLs, installation instructions, and automatic updates

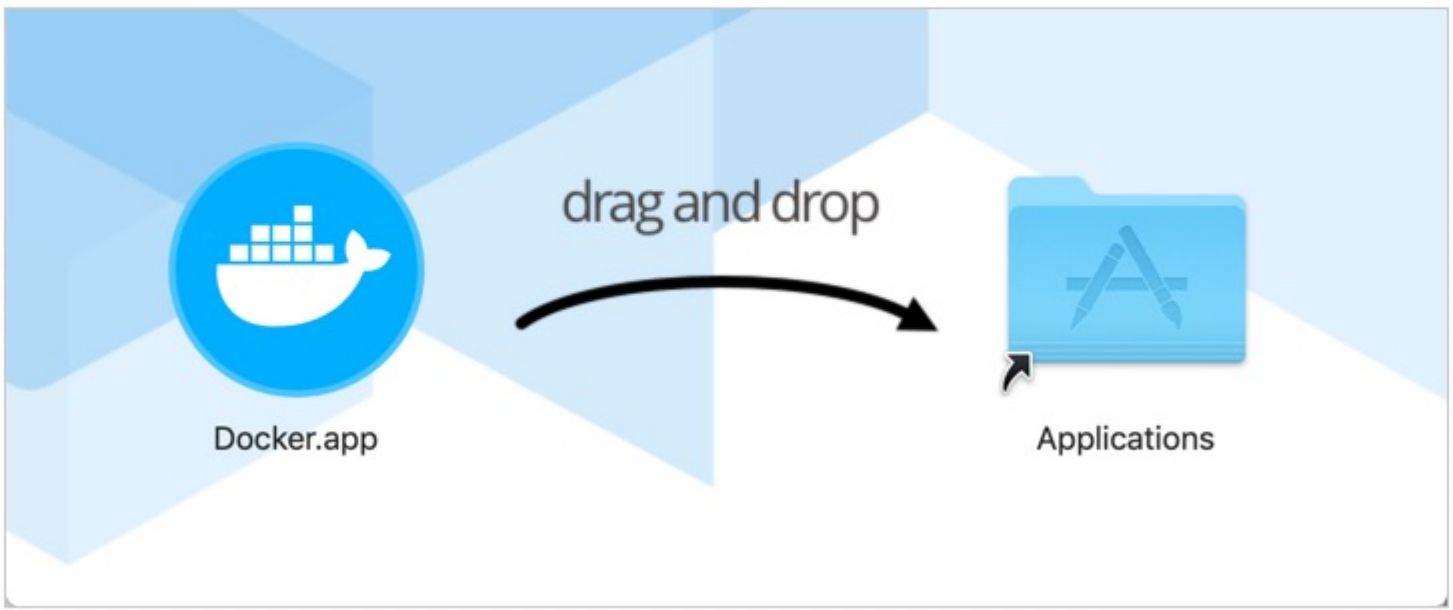
Download Docker Desktop for Mac:

Mac with Intel chip | Mac with

By downloading Docker Desktop, you agree to Agreement.

Install and run Docker Desktop on Mac

1. Double-click `Docker.dmg` to open the installer, then drag the Docker icon to the Applications folder.



https://docs.docker.com/docker-for-windows/install/

Install Docker Desktop on Windows

Estimated reading time: 6 minutes

Welcome to Docker Desktop for Windows. This page contains information about Docker Desktop for Windows system requirements, download URL, installation instructions, and automatic updates.

Docker Desktop for Windows

By downloading Docker Desktop, you agree to the terms of the Docker Software End User License Agreement and the Docker Data Processing Agreement.

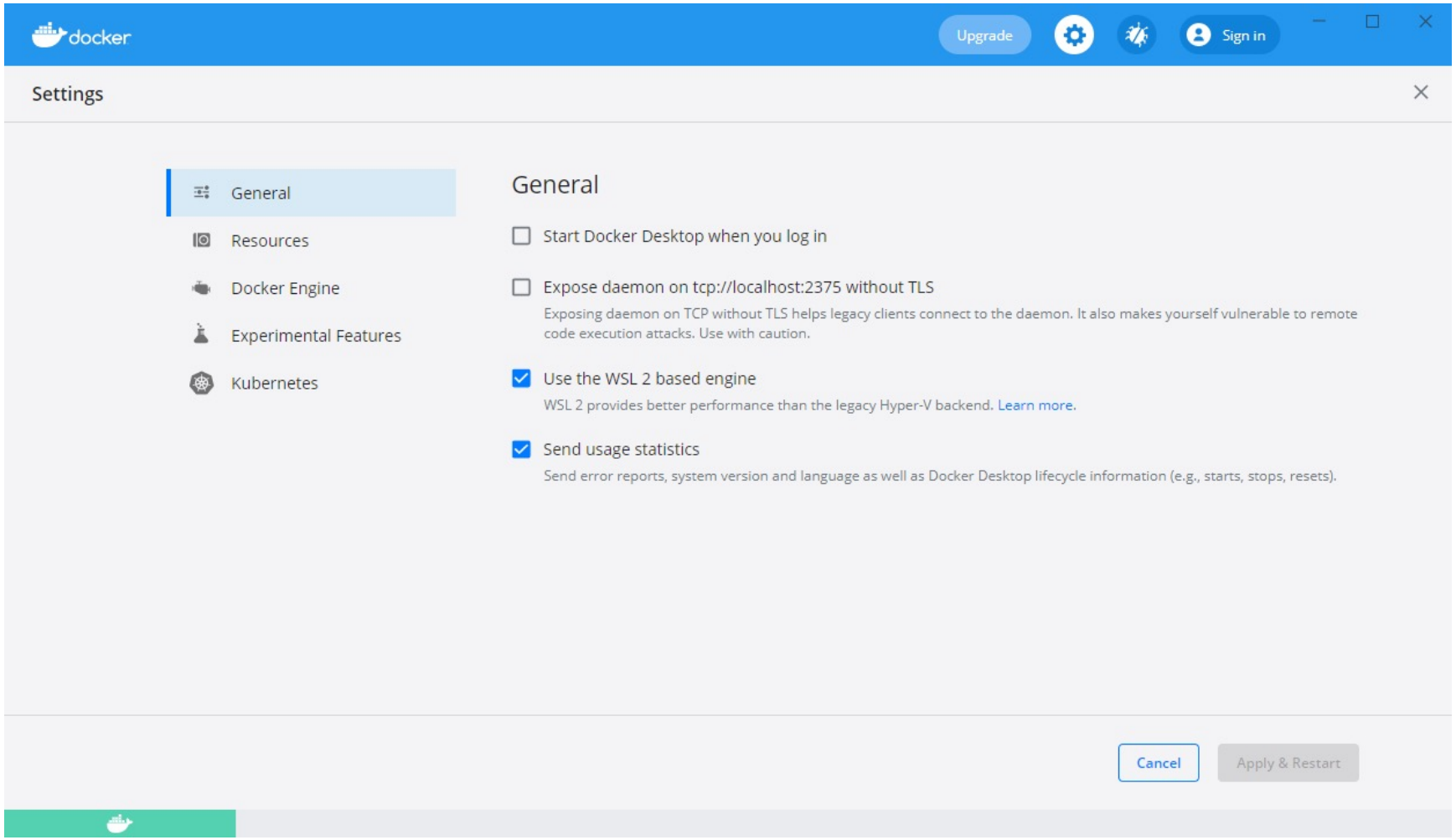
System requirements

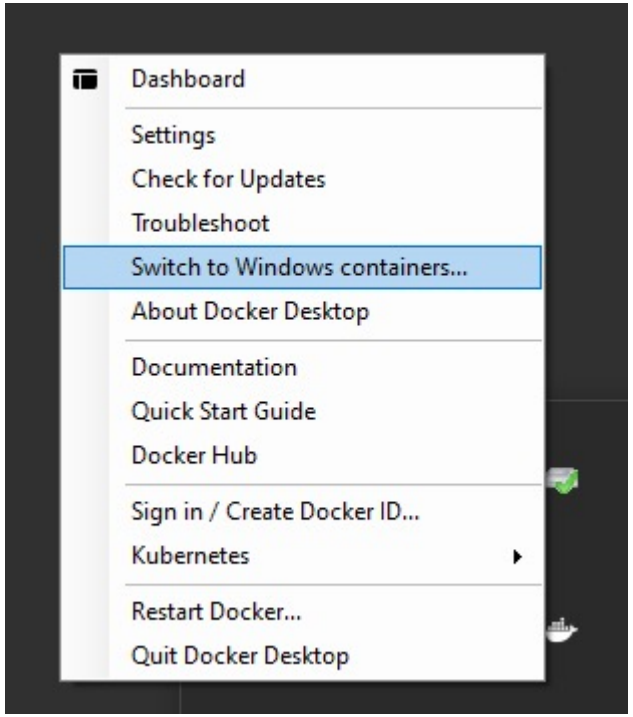
Your Windows machine must meet the following requirements to successfully install Docker Desktop.

WSL 2 backend | Hyper-V backend and Windows containers

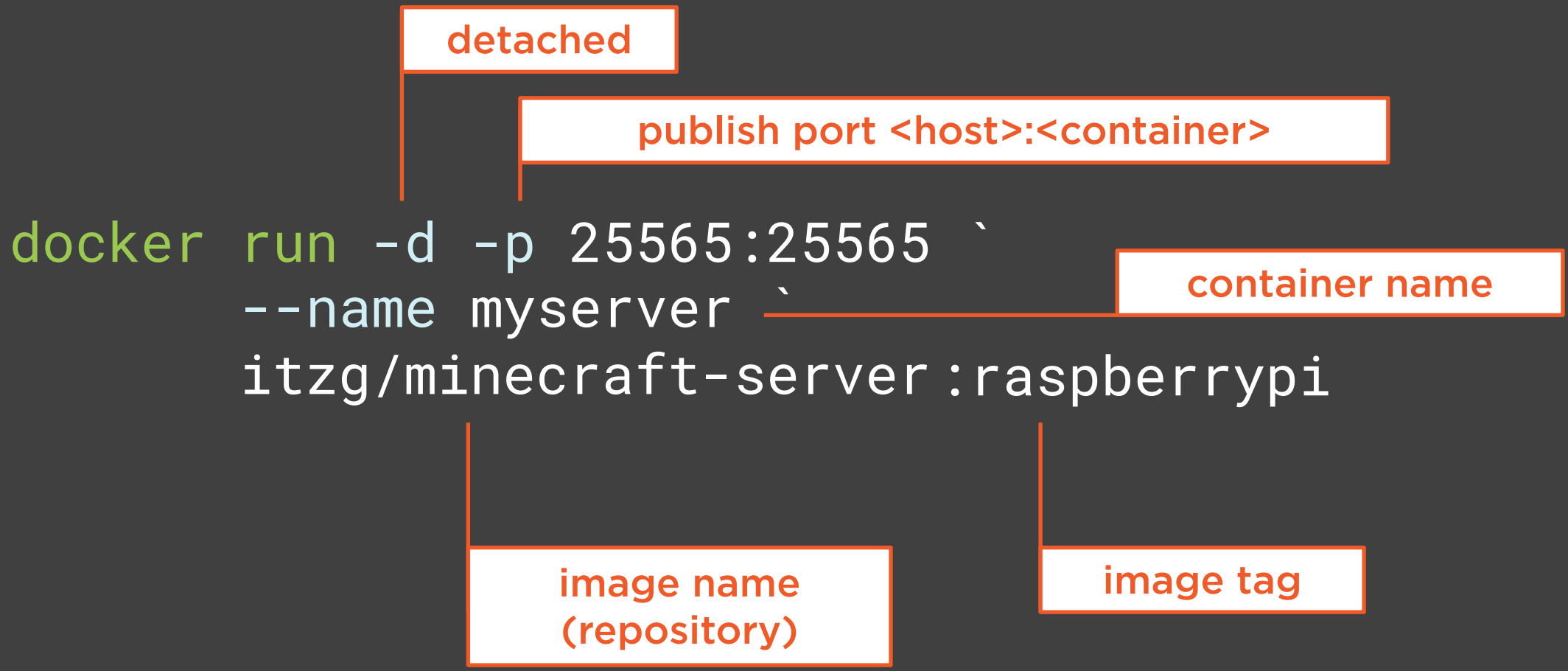
WSL 2 backend

- Windows 10 64-bit: Home, Pro, Enterprise, or Education, version 1903 (Build 18362 or higher).
- Enable the WSL 2 feature on Windows. For detailed instructions, refer to the Microsoft documentation.
- The following hardware prerequisites are required to successfully run WSL 2 on Windows 10:
  - 64-bit processor with Second Level Address Translation (SLAT)
  - 4GB system RAM
  - BIOS-level hardware virtualization support must be enabled in the BIOS settings. For more information, see Virtualization.
- Download and install the Linux kernel update package.

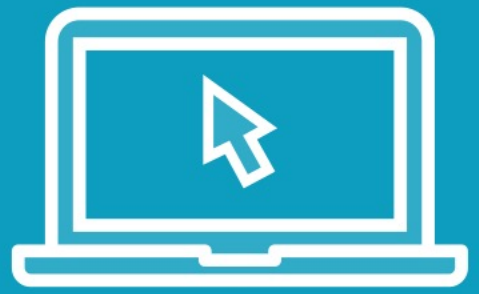

docker
Upgrade
Sign in
Settings
General
Resources
Docker Engine
Experimental Features
Kubernetes
General
Start Docker Desktop when you log in
Expose daemon on tcp://localhost:2375 without TLS
Exposing daemon on TCP without TLS helps legacy clients connect to the daemon. It also makes yourself vulnerable to remote code execution attacks. Use with caution.
Use the WSL 2 based engine
WSL 2 provides better performance than the legacy Hyper-V backend. Learn more.
Send usage statistics
Send error reports, system version and language as well as Docker Desktop lifecycle information (e.g., starts, stops, resets).
Cancel
Apply & Restart


Dashboard
Settings
Check for Updates
Troubleshoot
Switch to Windows containers...
About Docker Desktop
Documentation
Quick Start Guide
Docker Hub
Sign in / Create Docker ID...
Kubernetes
Restart Docker...
Quit Docker Desktop

docker run

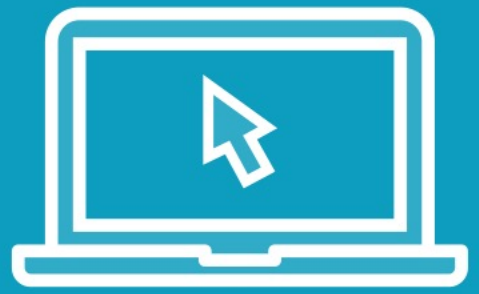

detached
publish port <host>:<container>
docker run -d -p 25565:25565 `
--name myserver `
container name
itzg/minecraft-server:raspberrypi
image name
(repository)
image tag

Demo



Running Redis with Docker

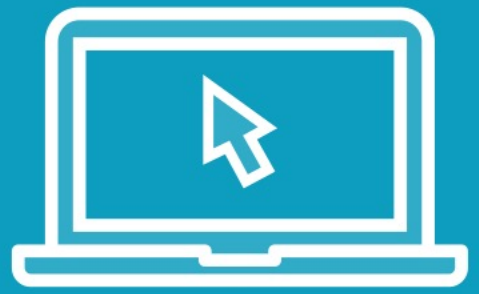
Demo



Running commands inside containers

- Connect on localhost port 6379
- Run the Redis CLI in a container
- docker exec

Demo



Storing container data

- Containers are disposable
- Keep data in Docker volumes
- Mount a volume

Summary

docker run

- -d (run detached)
- -it (interactive terminal)
- -p (publish a port)
- -v (mount a volume)
- --name (name a container)
- --link (communicate between containers)
- --rm (auto-delete when container stops)
- -e NAME=value (environment variables)

Summary

docker exec

- Run a command inside a container

docker ps

- See what containers are running

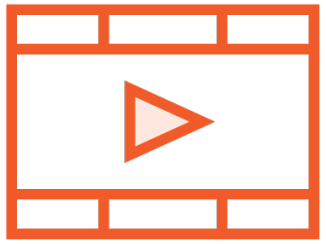
docker logs

- View log output from a container

Clean up

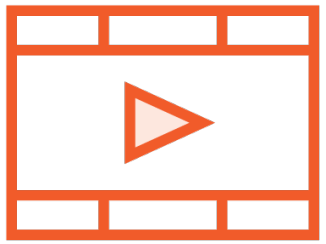
- docker rm –f container-name
- docker image rm image-name
- docker volume rm volume-name

Learning More



Getting Started with Docker

Nigel Poulton



Getting Started with Docker on Windows

Wes Higbee

Up next:
Creating Docker Images