

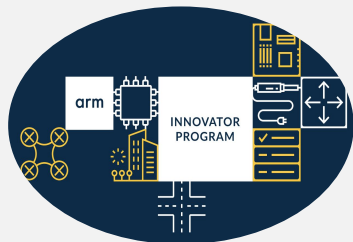
5 Docker Extensions to Improve Your Productivity

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Speaker

- Working at Docker, Inc
- Author @ <https://collabnix.com>
- Docker Captain
- Docker Community Leader, Bangalore
- ARM Innovator
- Worked @ DellEMC, VMware, Redis & CGI



Docker Overview

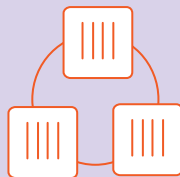
SaaS	On Desktop	On Server, IoT Edge or in the Cloud	Developer Tools
Docker Hub	Docker Desktop for Mac	Docker Engine	Docker Compose
	Docker Desktop for Windows	Docker Engine support for IoT	Docker Buildkit
	Docker Desktop for Linux		Docker CLI
			Docker Content
			Kubernetes
			Docker Extension

Docker Extensions

Add New Functionality to
Docker Desktop



Integrate your workflows
and create automation



Discover 3rd party tools
within Docker Desktop



Allow community & partners
to contribute to Docker
Desktop



Discover New Tools to
solve existing problems



Provide Extensions SDK to
create a new Extensions



Docker Extensions SDK

- Build extensions with **React** and **TypeScript** to customize and enhance Docker Desktop
- **Fast development** of your extension with **hot-reloading** - edit code and the changes will be immediately reflected in Docker Desktop
- Seamlessly style integration **with the Docker Material UI Theme** npm package - easily replicate Docker Desktop's look & feel
- **Extensions CLI** - create, manage and validate extensions from your terminal
- Documentation with **tutorials** to help you get started
- Develop extensions on **all platforms!**
Windows, WSL2, Mac (Intel and Apple Silicon) and Linux



Docker Extensions SDK

- Extensions are packaged as specially formatted Docker images, which our CLI tool helps to build.
- At the root of the image filesystem is a `metadata.json` file which describes the content of the extension. It is a fundamental element of a Docker extension.
- An extension can contain a UI part and backend parts that run either on the host or in the Desktop virtual machine. For further details, see [Extension metadata](#).
- Extensions are distributed through the Docker Hub. Development of extensions can be done locally without the need to push the extension to Docker Hub. See [Extensions distribution](#) for further details.

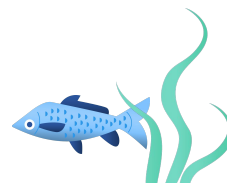
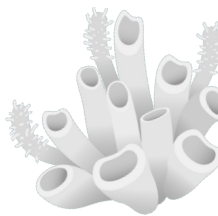


Docker Extensions

Extensions can be installed from our Extensions Marketplace.

Extensions are available now on Docker Hub.

Currently in beta. Not intended for Prod environments

A screenshot of the Docker Hub Extensions Marketplace. The interface has a blue header with the Docker Hub logo, a search bar, and navigation links for Explore, Repositories, Organizations, and Help. A user profile for 'ajeetraina' is in the top right. On the left, a sidebar shows filters: Products (Images, Extensions, Plugins), Trusted Content (Docker Official Image, Verified Publisher, Sponsored OSS), Operating Systems (Linux, Windows), and Architectures (ARM, ARM 64, IBM POWER, IBM Z, PowerPC 64 LE). The main area displays a list of extensions. The first extension is 'Ambassador Telepresence' by Ambassador Labs, updated 22 days ago, with a description: 'Instantly bridge your workstation with Kubernetes clusters in the cloud. Test local changes against remote dependence...'. The second is 'anchore' by Anchore Inc., updated 3 months ago, with a description: 'Content and security analysis for container images'. The third is 'Aqua Trivy' by Aqua Security Software, updated 14 days ago, with a description: 'Run unlimited vulnerability scans against remote or locally stored images. Understand any security issues that may be p...'. The fourth is 'Ddosify' by Ddosify Ltd., updated 11 days ago, with a description: 'High-performance, open-source and simple load testing tool, written in Golang.'.

docker hub Search for great content (e.g., mysql) Explore Repositories Organizations Help

ajeetraina

Filters (1) Clear All

Products

- ☐ Images
- ☒ Extensions
- ☐ Plugins

Trusted Content

- ☐ Docker Official Image
- ☐ Verified Publisher
- ☐ Sponsored OSS

Operating Systems

- ☐ Linux
- ☐ Windows

Architectures

- ☐ ARM
- ☐ ARM 64
- ☐ IBM POWER
- ☐ IBM Z
- ☐ PowerPC 64 LE

1 - 22 of 22 available extensions.

EXTENSIONS

Ambassador Telepresence
By Ambassador Labs • Updated 22 days ago
Instantly bridge your workstation with Kubernetes clusters in the cloud. Test local changes against remote dependence...

anchore
By Anchore Inc. • Updated 3 months ago
Content and security analysis for container images

Aqua Trivy
By Aqua Security Software • Updated 14 days ago
Run unlimited vulnerability scans against remote or locally stored images. Understand any security issues that may be p...

Ddosify
By Ddosify Ltd. • Updated 11 days ago
High-performance, open-source and simple load testing tool, written in Golang.



Supported Platforms

- Docker Extensions is available as part of Docker Desktop 4.8.0 or a later release.
- **You don't need to install Extension CLI separately**

```
ajeetraina@Ajeets-MacBook-Pro ~ % docker extension
```

```
Usage:  docker extension [OPTIONS] COMMAND
```

```
Manages Docker extensions
```

```
Options:
```

```
--socket string  The Desktop extension manager socket
```

```
Management Commands:
```

```
dev              Extension development helpers
```

```
Commands:
```

disable	Disable extensions in Docker Desktop
enable	Enable extensions in Docker Desktop
init	Create a new desktop extension
install	Install a Docker extension with the specified image
ls	List installed Docker extensions
rm	Removes a Docker extension
update	removes and re-install a Docker extension
validate	Validate extension extension image or metadata file
version	Print the client and server versions

```
Run 'docker extension COMMAND --help' for more information on a command.
```



A Curated List of Docker Extensions

<https://collabnix.github.io/docker-community-extensions/>





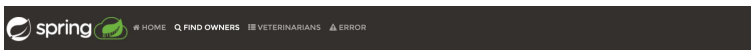
India has an estimated pet population of 28–29 million, according to industry estimates.
Spike in ownership boosts pet care retail biz

A Need of Pet Clinic App



Running PetClinic App

Petclinic is a Spring Boot application built using Maven.
You can build a jar file and run it from the command line



Owners

Name	Address	City	Telephone	Pets
George Franklin	110 W. Liberty St.	Madison	6085551023	Leo
Betty Davis	638 Cardinal Ave.	Sun Prairie	6085551749	Basil
Eduardo Rodriguez	2693 Commerce St.	McFarland	6085558763	Jewel, Rosy
Harold Davis	563 Friendly St.	Windsor	6085553198	Iggy
Peter McTavish	2387 S. Fair Way	Madison	6085552765	George

Pages: [1 2] [M](#) [H](#) [H](#) [H](#)



```
$ git clone  
https://github.com/spring-projects/spring-p  
etclinic.git  
$ cd spring-petclinic  
$ ./mvnw package  
$ java -jar target/*.jar
```



9 Tips for Containerizing a Spring Boot App



Automate all the manual tasks

Try building up the JAR during the build process within your Dockerfile itself. Avoid copying the JAR file manually



Use Multi-Stage Build

Multi-Stage build makes the final image more secure and smaller in size



Run Container as non-root user

Running app with user privileges is safe since it helps mitigate risks



Use a specific base image tag

The "latest" Docker image tag is unpredictable, hence try to use specific image tags whenever possible



Use .dockerignore

To increase build performance, it is recommended to use .dockerignore file in the same directory as your Dockerfile



Fix security vulnerabilities

Always run security scans on the images to detect any known vulnerabilities like Log4Shell



Use Eclipse Temurin instead of JDK

Instead of using the OpenJDK latest Docker image, try to use Eclipse Temurin, if possible



Favor Multi-arch Docker image

Always build the Docker image with Multi-Architecture Platform Support



Measure Java Performance

Use the OpenTelemetry API to ensure that apps are faster and more performant

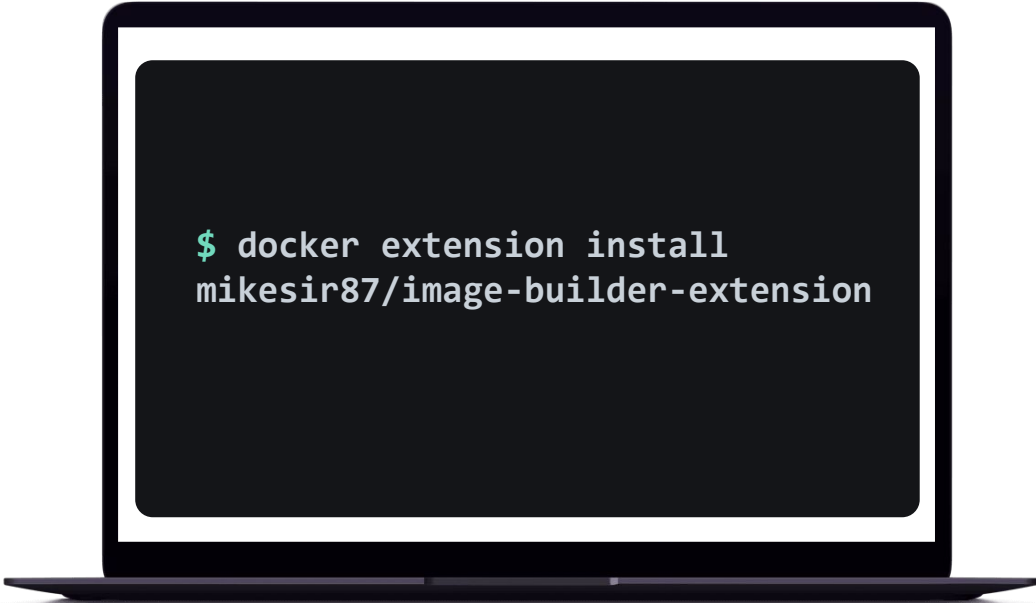


<https://www.docker.com/blog/9-tips-for-containerizing-your-spring-boot-code/>



#1. Image Builder Extension

Build your Dockerfile using Extension

A stylized illustration of a laptop with a black frame. The screen is white and displays a black terminal window. Inside the terminal window, a command is written in a monospaced font. The dollar sign is green, and the rest of the text is black.

```
$ docker extension install  
mikesir87/image-builder-extension
```



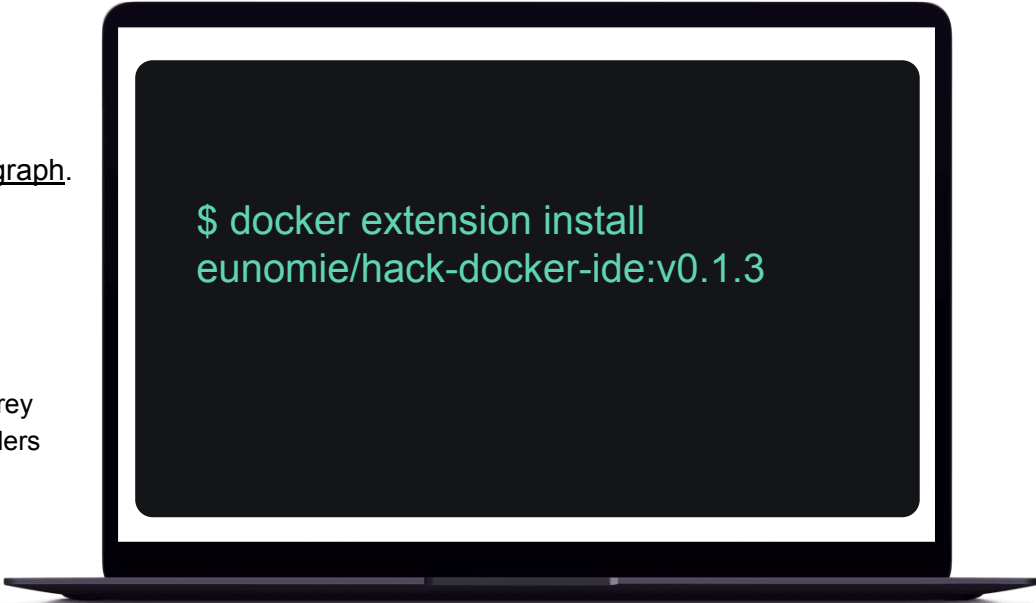
#2. Dockerfile Inspector Extension

Visualizes your MultiStage builds.

- It is based on <https://github.com/patrickhoefer/dockerfilegraph>.

The graph contains the following nodes:

- All build stages
- The default build target highlighted in grey
- External base images with dashed borders

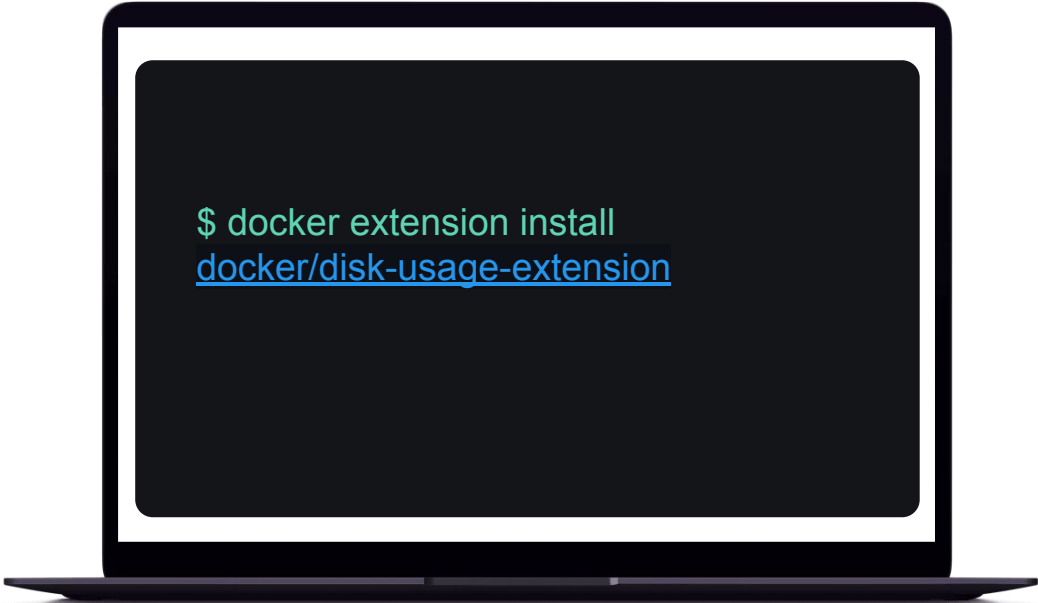


```
$ docker extension install  
eunomie/hack-docker-ide:v0.1.3
```



#3 Disk Usage Extension

Optimize your disk space by removing unused objects from Docker Desktop

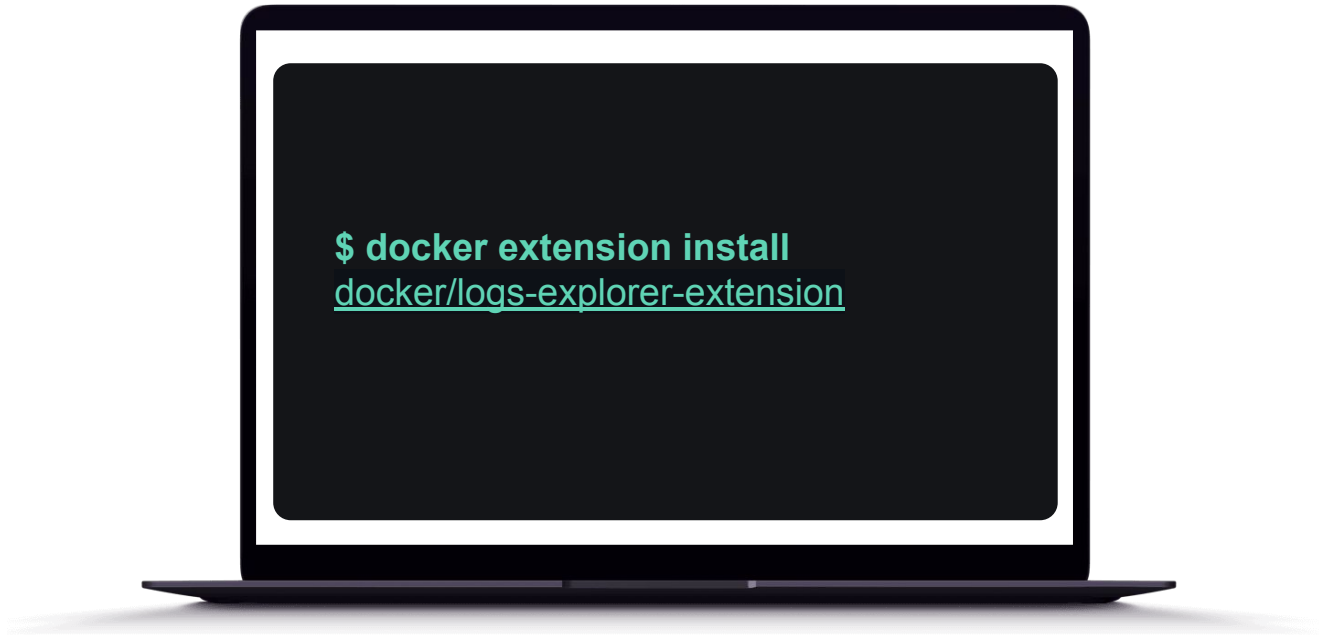


```
$ docker extension install  
docker/disk-usage-extension
```



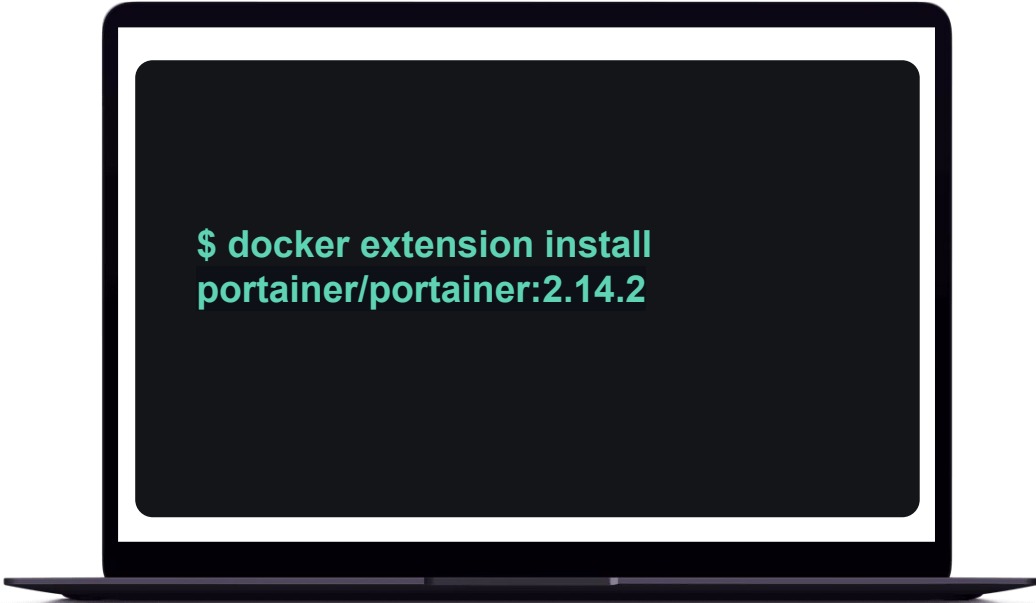
#4. Logs Explorer Extension

View all your container logs in one place so you can debug and troubleshoot faster



#5. Portainer Extension

View all your container logs in one place so you can debug and troubleshoot faster



```
$ docker extension install  
portainer/portainer:2.14.2
```



Reference Slide

- Docker Desktop Current Releases –
<https://www.docker.com/products/docker-desktop/>
- Docker Extensions Docs –
<http://docs.docker.com/desktop/extensions/>
- Docker Extensions SDK Docs –
<https://docs.docker.com/desktop/extensions-sdk/>
- Extensions Slack Channel – #extensions
- Extensions SDK Feedback –
<https://github.com/docker/extensions-sdk/issues>



simplicity  choice