Comprehensive Guide to Apache Superset Installation Using Docker on Windows and Ubuntu

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May 7, 2025

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1 Introduction

Apache Superset is a modern, enterprise-ready business intelligence web application. This documentation provides a step-by-step guide to installing Superset using Docker on both Windows and Ubuntu systems.

2 Prerequisites

- Windows 10/11 Pro/Enterprise or Ubuntu 18.04+
- 64-bit processor with Second Level Address Translation (SLAT)
- 4GB RAM minimum (8GB recommended)
- BIOS-level hardware virtualization support enabled
- Docker Desktop (Windows) or Docker Engine (Ubuntu)

3 Installation on Windows

3.1 Installing Docker Desktop

1. Download Docker Desktop from `https://www.docker.com/products/docker-desktop`
2. Run the installer and follow the wizard
3. Enable WSL 2 backend during installation (recommended)
4. Launch Docker Desktop after installation

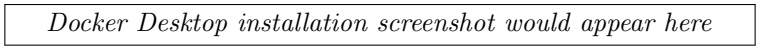

Figure 1: Docker Desktop on Windows

3.2 Pulling Apache Superset Image

Open PowerShell or Command Prompt and run:

```
docker pull apache/superset
```

3.3 Running Superset Container

Create and start a Superset container with:

```
docker run -d -p 8080:8080 --name superset apache/superset
```

4 Installation on Ubuntu

4.1 Installing Docker Engine

```
sudo apt-get update
sudo apt-get install docker.io
sudo systemctl start docker
sudo systemctl enable docker
```

4.2 Setting Up Superset

Follow the same steps as Windows for pulling and running the image.

5 Configuration

5.1 Generating Secret Key

Generate a secure secret key for Flask:

```
openssl rand -base64 42
```

5.2 Editing Config File

Access the container's shell:

```
docker exec -it superset bash
```

Edit the configuration file at `/app/superset/config.py` with your preferred editor (nano, vi).

6 Initial Setup

6.1 Database Upgrade

Inside the container, run:

```
superset db upgrade
```

6.2 Creating Admin User

Create your first admin account:

```
superset fab create-admin \
    --username admin \
    --firstname Admin \
    --lastname User \
    --email admin@example.com \
    --password admin
```

6.3 Loading Examples

Load example datasets and dashboards:

```
superset load-examples
```

6.4 Initializing Superset

Complete the initialization:

```
superset init
```

7 Accessing Superset

After completing all steps, access Superset at:

- `http://localhost:8080` (Windows/Ubuntu direct)
- `http://<your-server-ip>:8080` (Ubuntu remote)

Superset login page screenshot would appear here

Figure 2: Superset Login Page

8 Troubleshooting

8.1 Common Issues

- **Port conflict**: Ensure port 8080 is free or change the port mapping
- **Memory issues**: Allocate more resources to Docker
- **WSL 2 problems**: Update WSL 2 kernel in Windows

8.2 Useful Commands

```
# Check container logs
docker logs superset

# Stop container
docker stop superset

# Remove container
docker rm superset

# Restart container
docker restart superset
```

9 Conclusion

You now have a fully functional Apache Superset instance running in Docker. For production deployments, consider additional configuration for security and performance.

10 References

- Official Apache Superset documentation: `https://superset.apache.org/`
- Docker documentation: `https://docs.docker.com/`
- WSL 2 installation guide: `https://aka.ms/wsl2install`