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Day17 Challenge: Docker Essentials - Your First Step to CKA Success
1 message

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Hello Learners,

Welcome back to the **DevOps SRE Daily Challenge!** 🎉

Welcome to today's challenge! Today, we'll focus on **Container Fundamentals** crucial for the CKA exam. Understanding these concepts is essential for deploying, managing, and troubleshooting containerized applications.

What You'll Learn:

- The evolution of application deployment methods.
- Core principles of containerization.
- Key features and advantages of Docker.

Challenge Tasks

1. **Theory Refresher**

   - Could you explain in your own words the difference between virtual machines and containers?
   - Why are containers considered lightweight compared to VMs?
   - Explain Docker Architecture
   - What are Docker's key components (e.g., images, containers, registries)?

2. **Hands-On Practice**

- Install Docker on your local machine or a virtual instance (if not already installed).
- Run the official **nginx** Docker container:

```
docker run -d -p 8080:80 nginx
```

  - Access the running container via your browser at `http://<your-ip>:8080`.
- Please list all running containers and look over the nginx container details.

3. ### Deep Dive Exercise

- Create a Dockerfile for a simple Python application that prints "Hello, Containers!" when run.
- Build an image from your Dockerfile and run it as a container.
- Share your Dockerfile and the output of the container in your submission.

4. ### Share your Docker image

- Tag the Docker image you created for the Python application. Use the format:

```
<your-dockerhub-username>/<image-name>:<tag>
```

  Example:

```
docker tag python-hello <your-dockerhub-username>/python-hello:v1
```

- Push the tagged image to Docker Hub (or any container registry you prefer).

```
docker push <your-dockerhub-username>/python-hello:v1
```

- Share the public URL of your pushed image in the submission.

Submission Guidelines

- Write your responses in markdown or text format.
- Include screenshots of your running container and Dockerfile output for verification.

- Post your experience on social media with the hashtags: #getfitwithsagar, #SRELife, #DevOpsForAll #ckawithsagar

Resources to Help You:

- Container Fundamentals
- Docker documentation
- Docker Tutorial for Beginners (YouTube)

Good luck, and remember, mastering these basics is your first step toward acing the CKA exam! 🚀

If you missed any previous challenges, you can catch up by reviewing the problem statements on GitHub.

Best regards,
Sagar Utekar