

How can software containers help your research?

Australian Research Data Commons

July 2021

Watch the video here: <https://www.youtube.com/watch?v=HelrQnm3v4g>

This video explains software containers to a research audience. It is an introduction to why containers are beneficial for research. These benefits are standardisation, portability, reliability and reproducibility.

Software Containers in research are a solution that addresses the challenge of a replicable computational environment and supports reproducibility of research results. Understanding the concept of software containers enables researchers to better communicate their research needs with their colleagues and other researchers using and developing containers.

About Australian Research Data Commons (ARDC)

The ARDC is a transformational initiative that enables Australian research community and industry access to nationally significant, leading edge data intensive eInfrastructure, platforms, skills and collections of high-quality data. The purpose of the ARDC is to provide Australian researchers with competitive advantage through data, providing access to leading edge eResearch collections, tools, infrastructure and services. Its mission is to accelerate research and innovation by driving excellence in the creation, analysis and retention of high-quality data assets. The ARDC is enabled by the National Collaborative Research Infrastructure Strategy (NCRIS)

<https://www.dese.gov.au/national-research-infrastructure>

Supplementary information

We recognise the limitations of a short video - hence we refer you to supplementary information:

- Your first point of contact should be your local institution/organisation computing support
- The Pawsey SuperComputing Centre has a list of videos explaining containers <https://www.youtube.com/c/PawseySupercomputingCentre/search?query=container> and tutorials to follow online <https://pawseysc.github.io/containers.html>
- The NeuroDesk is a project that uses containers for Neurosciences (short video) https://www.youtube.com/watch?v=JLv_5fycugw.
- Introduction to using containers for reproducibility in R (presentation video and examples) https://github.com/rladies/meetup-presentations_brisbane/tree/master/2021/06
- You can build containers in the ARDC Nectar Research Cloud <https://ardc.edu.au/services/nectar-research-cloud/>

- If you are already familiar with containers in research you are welcome to participate in the Australian Research Container Orchestration Services (ARCOS) Community supported by the ARDC
<https://arcos.ardc.edu.au/>
- Searching for containers? these are some global repositories
 - [Singularity Hub](https://singularityhub.github.io/sregistry/) <https://singularityhub.github.io/sregistry/>
 - [Biocontainers](https://biocontainers.pro/) <https://biocontainers.pro/>
 - [Docker Hub](https://hub.docker.com/) <https://hub.docker.com/>
 - [Red Hat Quay](https://www.redhat.com/en/technologies/cloud-computing/quay) <https://www.redhat.com/en/technologies/cloud-computing/quay>
 - [Amazon Elastic Container Registry \(ECR\)](https://aws.amazon.com/ecr/) <https://aws.amazon.com/ecr/>
 - [Azure Container Registry](https://azure.microsoft.com/en-us/services/container-registry/) <https://azure.microsoft.com/en-us/services/container-registry/>
 - [Google Container Registry](https://cloud.google.com/container-registry/) <https://cloud.google.com/container-registry/>

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Keywords

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Video production service

Sam Muirhead, Camera Libre <https://www.cameralibre.cc/>

Made with Free/Libre Open Source Software

Twitter: <https://twitter.com/cameralibre>

Source files: <https://gitlab.com/cameralibre/software-containers-animation>

Contact Us

Share your research containers challenges and solutions with us in the comment section of the video or our social media, we would love to hear from you!

Australian Research Data Commons (ARDC)

[Contact us](#)

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ARDC Nectar Research Cloud

Learn more about the ARDC Nectar Research Cloud.

Website: <http://ardc.edu.au/nectar>

Australian Research Container Orchestration Services (ARCOS) Community

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Website: <https://arcos.ardc.edu.au>