Using Containers with ATLAS Offline Software
Marcelo Vogel on behalf of the ATLAS Collaboration

Introduction to Docker Containers

Why Docker? Efficiently ship & quickly launch applications on cloud computing resources.

What is Docker? Software-based environment and resource isolation technology

How does it work? Processes run natively (but isolated) on minimally configured hosts

Docker is not a virtual Machine, which simulates both hardware and software. Docker will share the OS kernel, but isolate different environments ("containers") with respect to data, code, networking, etc.

Dockerfile: Automatic Image Building

Images can be built automatically by Docker if provided with a Dockerfile, which is basically a set of instructions to be executed in command-line fashion (Maintained at gitlab.cern.ch)

Docker images: archived, executable file system snapshots

Images are portable, self-contained, reproducible software environments. An image includes full dependencies (OS, libraries, user code)

Docker images are built from layers

A container is an instance of an image, which starts as a single process in the environment packaged in the image

ATLAS Software in Docker Images

The new repository for ATLAS computing documentation has a new section for working with Docker containers

ATLAS Athena Guide

Always check the ATLAS Athena Guide first! This page includes useful information about how to use Athena and ATLAS-software tools and resources. The guide contains important information about the ATLAS Athena software and tools.

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