CAST AIP Docker Installer

Introduction

CAST provides Docker images for Microsoft Windows and Linux (available in Docker hub) that includes the CAST AIP Components listed below. It has been implemented to facilitate CAST AIP deployment. The images are deployed via the CAST AIP Docker Installer (an interactive batch script) in containers created by the installer and you can therefore install **multiple CAST AIP containers** in the Docker environment - for example to install multiple AIP Nodes on the same server within Docker.

	Docker for Microsoft Windows	Docker for Linux
	AIP Console (front end) - including embedded CAST Dashboards **AIP Node (back end)** ⓘ Only **AIP Console 1.x** (2.x not available via CAST AIP Docker Installer).	**AIP Console (front end)** - including embedded CAST Dashboards ⓘ Only **AIP Console 1.x** (2.x not available via CAST AIP Docker Installer).
	AIP Core (only for CAST Dashboards, not CAST Imaging)	-
	CAST Extend local server	-
	-	**CAST Health / Engineering / Security Dashboards** - in standalone mode. Available in **1.0.2**. Provided as a separate install script in a separate container.

Installation is flexible and you can install all these components or different combinations of them:

Docker for Microsoft Windows

- Deploy **AIP Console (front end)**, **AIP Node (back end)**, **AIP Core** and **Extend Proxy** (without extensions)
- Deploy **AIP Console (front end)**, **AIP Node (back end)** and **AIP Core**
- Deploy **AIP Node (back end)** and **AIP Core** - this option is designed for use with an existing **AIP Console (front end)** deployed elsewhere in your environment
- Choose to store the data **(Delivery, Deploy, Logs, LISA, LTSA etc.)** in a specific location on the server or on a network share, or leave it with the Docker container

Docker for Linux

- Deploy **AIP Console (front end)**
- Choose to store the **AIP Console persistence database** in a specific location on the server, or leave it with the Docker container
- Deploy **CAST Dashboards** in standalone mode in an additional dedicated container

Which releases of CAST AIP components are provided in the image?

The Docker images provided by CAST will contain the most recent "funcrel" releases of each component where possible. Images are updated as soon as new releases of components are shipped. You can inspect the content of the images via Docker hub (Docker ID account required). The "latest" tag contains the most recent release:
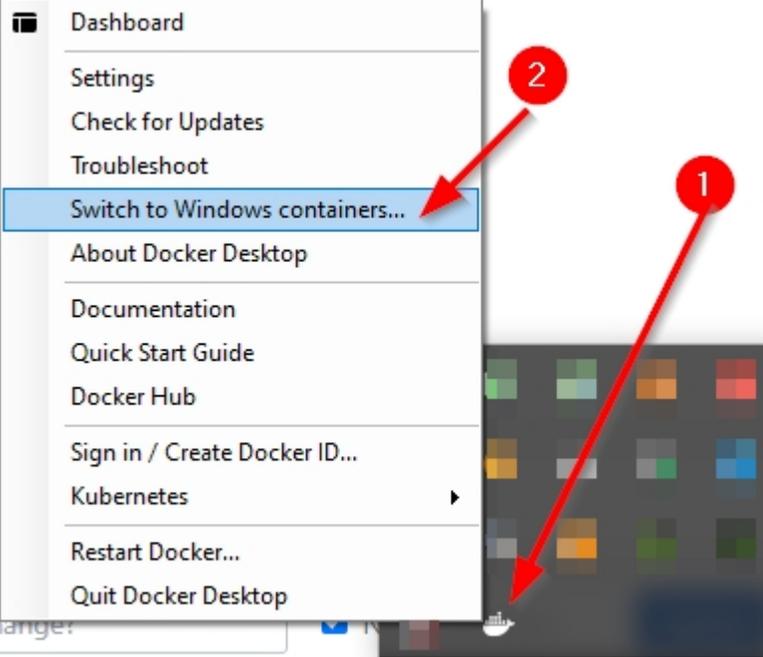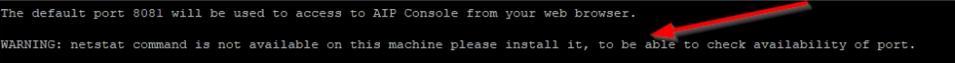
- **Microsoft Windows image for Console/AIP Node/AIP Core/Extend Proxy**: **https://hub.docker.com/r/castaip/windows_pack/tags?page=1&ordering=last_updated**
- **Linux image for Console/AIP Node/AIP Core/Extend Proxy**: **https://hub.docker.com/r/castaip/linux_pack/tags?page=1&ordering=last_updated**
- **Linux image for standalone Dashboards: https://hub.docker.com/r/castaip/dashboards_linux/tags?page=1&ordering=last_updated**

Release Notes

See **CAST AIP Docker Installer - Release Notes**.

Deployment requirements

Software	Supported	Notes
Host Operating System	✅	**Microsoft Windows** See the Docker Desktop for Windows system requirements: **https://docs.docker.com/docker-for-windows/install/#system-requirements** ⓘ • To run Docker in a virtual machine, the Operating System must be running **Windows Server 2019** with the latest updates applied. • Installations of Windows Server using only **Server Core** (i.e. without a GUI) are not supported. **Linux** • Ubuntu Server (16.04 LTS / 18.04 LTS / 20.04 LTS) • CentOS (7 or 8) See also: **https://docs.docker.com/engine/install/#server**

Docker	✅	**Microsoft Windows** **Docker Desktop for Windows** - latest version recommended, or one that provides: • **Docker Engine 19.03.5** • **docker-compose 3.0** • **Hyper-V** is required to run Docker Desktop on Microsoft Windows - see **https://docs.microsoft.com/en-us/virtualization/hyper-v-on-windows/quick-start/enable-hyper-v** • **Containers for Windows** must be enabled - see **https://docs.docker.com/docker-for-windows/#switch-between-windows-and-linux-containers.** Right click the Docker Desktop icon in the system tray and click **Switch to Windows Containers**:
		Linux • **Docker Engine 18.0** • **docker-compose 3.0** • **curl (optional)** - to download the extension containing the start script from CAST Extend. • **netstat (optional)** - the installer uses this tool to check if the requested port for the installed components is free. This tool is not present by default in all Linux distributions. If the tool is not present, a message is displayed during the installation and you should ensure that your chosen port is indeed unused since the installer will not have been able to check this. This is especially true when installing additional containers by re-running the script - if you choose the same port numbers, the container will not be able to start.
RAM	✅	**16GB RAM** (minimum) for the host server. Note that by default, a container has no resource constraints and can use as much of a given resource as the host's kernel scheduler allows. Please consult **https://docs.docker.com/config/containers/resource_constraints/** for more information.
Storage	✅	**25GB** (minimum) free storage: SSD with SATA interface recommended. An installation of all components is currently approximately 14GB - however, if your data resides within the Docker container, then you will need additional storage.
CAST Storage Service / PostgreSQL instance	✅	The Docker image does not contain a **CAST Storage Service/PostgreSQL instance** for the **analysis data,** therefore if you are installing the AIP Node/AIP Core image (Docker for Windows only) you must **install** an instance on the current server (if the server is powerful enough) or on a dedicated server (recommended). The server on which Docker Desktop is installed and more specifically the container in which AIP Core/AIP Node is deployed, must be able to connect to this CAST Storage Service/PostgreSQL instance. Make sure that the configuration file **pg_hba.conf** in your CAST Storage Service/PostgreSQL instance is correctly configured to meet this requirement.
Access to Docker Hub	✅	The Docker images are hosted on **https://hub.docker.com/**, therefore the server on which you are performing the installation must have internet access to this URL.

Installation

See:

- **CAST AIP Docker Installer - Microsoft Windows installation**
- **CAST AIP Docker Installer - Linux installation**

Technical information and tips

Existing container detected during the installation

If the installer detects an existing container created by CAST in the Docker environment, the installer will prompt whether to remove these existing containers. The default action is to remove all existing containers:

```
====================================================================================
Then, let's do some cleaning concerning those old containers:
CONTAINER ID      IMAGE                      COMMAND              CREATED          STATUS           PORTS                    NAMES
e1d6cb12baa1      castaip/linux_pack:latest  "/bin/bash ./init_co…"  29 minutes ago   Up 29 minutes    0.0.0.0:8081->8081/tcp   castaip_1
====================================================================================

Enter "yes" if you want to keep all existing containers already started from image castaip/linux_pack:latest (default is "no" to remove all of them):
```

If you choose to retain the existing containers, the installer will choose a new unique container name for the new installation (or you can choose a custom name):

```
====================================================================================
Then, let's do some cleaning concerning those old containers:
CONTAINER ID      IMAGE                      COMMAND              CREATED          STATUS           PORTS                    NAMES
e1d6cb12baa1      castaip/linux_pack:latest  "/bin/bash ./init_co…"  32 minutes ago   Up 32 minutes    0.0.0.0:8081->8081/tcp   castaip_1
====================================================================================

Enter "yes" if you want to keep all existing containers already started from image castaip/linux_pack:latest (default is "no" to remove all of them):
yes
Container name could be:  << castaip_2 >>, if you want a custom one, please enter its name or Return if this one is ok for you:
```

Accessing files within the Docker container

It may be necessary to modify configuration files that reside in the Docker container for certain advanced configuration scenarios. If this is required, you can access the files using the following command from a command or Powershell window, where **<container_name>** is the name of the container created by the installer in Docker - the default is **castcaip_1**:

```
Microsoft Windows:
docker exec -it <container_name> cmd

Linux:
docker exec -it <container_name> /bin/bash
```