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Dockerizing MDSplus for use with custom data collection devices

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Advancements in data collection techniques call for the use of MDSplus not just as a centralized server, but running close to the data collection devices as well. To facilitate this, a set of Docker images are being developed to deploy miniature, self-contained installations of MDSplus. The goal being that every device could run alongside a small computer for processing and inserting the data into the MDSplus tree.

The use of MDSplus in its distributed mode allows for small, easily replacable processes running to collect and report only the data relevant to its device. This would decouple the needs of one device from the rest, and allow a more infrastructure-as-code approach to data acquisition.

We will detail the methods we used to dockerize MDSplus, along with any common mistakes one could run into. In addition, we will describe the process of configuring an MDSplus image to work with your own device, and provide the example resources we have created for our own use. Finally we will include a comparison of performance between regular and dockarized MDSplus, noting any potential pitfalls.

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