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PRACTICAL SAMPLES DOCKER CONTAINERS ON WINDOWS

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INTRODUCTION

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@TobiasFenster / ⇑https://navblog.axians-infoma.com / ⇑https://github.com/tfenster

Samples based on code by @EltonStoneman / ⇑https://github.com/sixeyed/docker-windows-workshop and Microsoft / ⇑https://github.com/Microsoft/dotnet-framework-docker/tree/master/sample, ⇑https://github.com/MicrosoftDocs/Virtualization-Documentation/tree/master/windows-container-samples

AGENDA

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- Run your first container
- Create an image using an installer
- Create an image from the sources
- Create a multi-stage image with a build and a run part
- Run multiple containers at once using compose

RUN YOUR FIRST CONTAINER

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- Running implies downloading an image (if the image is not already locally available), creating a container from that image and starting it
- We'll use a nanonserver based sample image:

```
microsoft/dotnet-samples:dotnetapp-nanoserver
```

CREATE AN IMAGE USING AN INSTALLER

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- Scenario: You have an application with an installer and want to put it in a container
- Steps:
  - Create a Dockerfile that installs (during build) and runs the application
  - Create an image from that Dockerfile
  - Run the image
  - Check if the container is running
  - Connect

- We'll install Apache and start it

CREATE AN IMAGE FROM THE SOURCES

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- Scenario: You have the sources for an application and want to put it in a container
- Steps:
  - Create a Dockerfile that (if neccessary) compiles and installs and then runs the application
  - Create an image from that Dockerfile
  - Run the image
- We'll use one where we only copy a file but do something more complex in the next one

CREATE A MULTI-STAGE IMAGE WITH A BUILD AND A RUN PART

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- Scenario: You have the sources for an application and want to put it in a container, but the container used to run the application should be as small as possible
- Steps:
  - Create a Dockerfile with two parts: The first compiles and installs the application, the second only gets the results and runs them
  - Create an image from that Dockerfile
  - Run the image

- We'll build and run an aspnet application

RUN MULTIPLE CONTAINERS AT ONCE USING COMPOSE

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- Scenario: Your application relies on multiple containers, e.g. a database, a middle tier and a web frontend. You want to describe and manage them together
- Steps:
  - Maybe create the neccessary images or reuse something that is already available
  - Define your application in a docker-compose file
  - Run docker-compose up

- We'll build an aspnet application and use a standard SQL Server container for the backend