Microsoft

DevOps & Containers Hands On Training

Setup & Scenario Guide

Ben Coleman

v1 Aug 2017

Part 1 – DevOps – Topics & Technologies

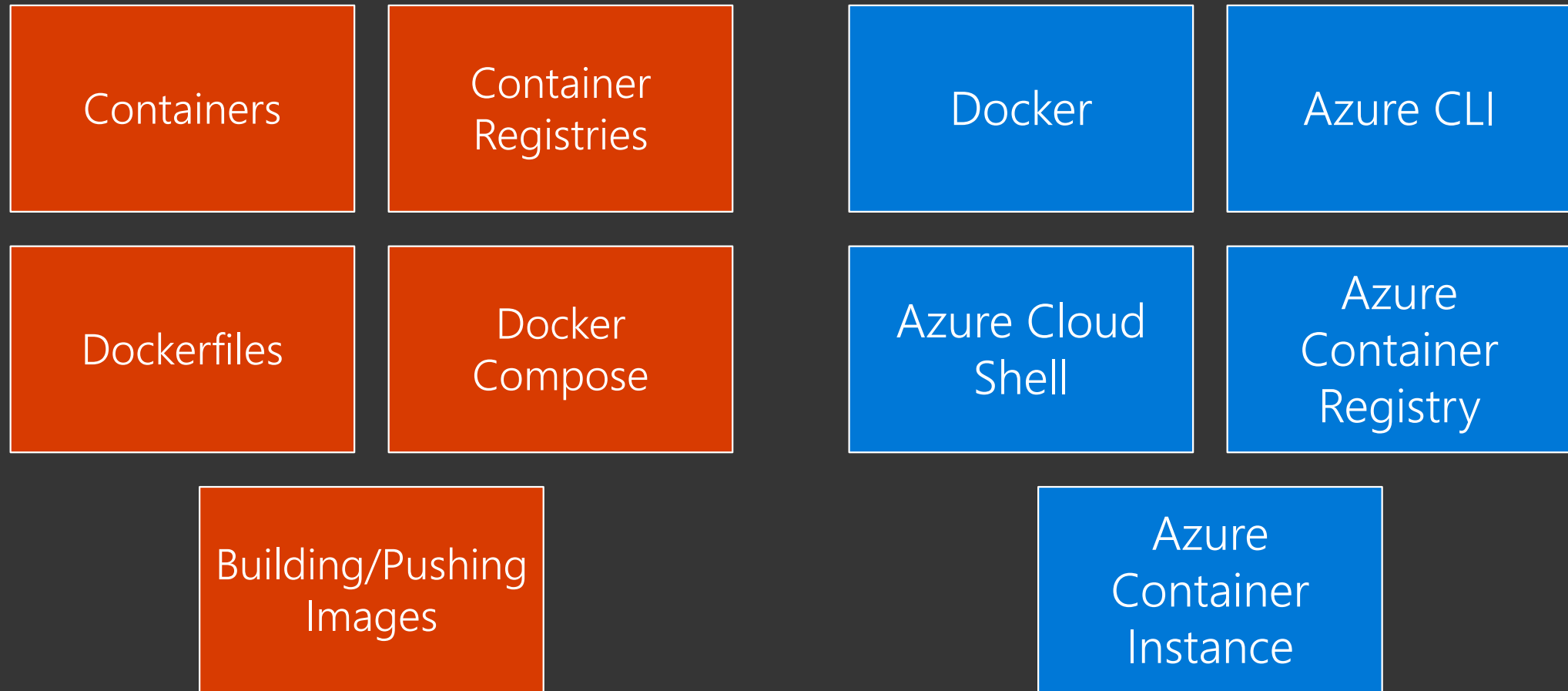|			
Continuous Integration	Continuous Deployment	Node.js	Git
Infrastructure As Code	Monitoring	VSTS	ARM Templates
Source & Version Control	PaaS	App Services	Application Insights

DevOps Exercise Overview

1) Create simple Node.js Express web application
2) Initialise local git repo and commit our code
3) Create project in VSTS and push code up
4) Create CI build process in VSTS
5) Create ARM template - infrastructure as code and add to project
6) Trigger CI build
7) Create CD release process in VSTS using built artifacts and ARM templates
8) Set up Application Insights in Azure
9) Add App Insights instrumentation to app code, triggering CI/CD release
10) Monitor the app via Application Insights

Part 2 - Containers - Topics & Technologies

Containers

Container Registries

Dockerfiles

Docker Compose

Building/Pushing Images

Docker

Azure CLI

Azure Cloud Shell

Azure Container Registry

Azure Container Instance

Containers Exercise Overview

1) Containerize the app from part 1 using Dockerfile
2) Build Docker image and test locally
3) Deploy Azure Container Registry (ACR)
4) Push image to ACR
5) Use Azure Cloud Shell
6) Deploy app as container in Azure using Azure Container Instance

Prerequisites and Setup

Pre-Req Software - Node.js

Node.js - https://nodejs.org/en/

- Download and install v6.11.2 LTS

- Take all defaults on install

- Verify installation, open CMD or PowerShell and run
`node --version`
    and
`npm --version`

Pre-Req Software - Git

Git - https://git-scm.com/download/win

- Page will automatically download the latest version (v2.14.1 x64)
- When installing make sure you take the defaults:
  - Choose "Use Git from the Windows Command Prompt" we will not use git bash
  - Enable "Git Credential Manager"
- Verify installation, open CMD or PowerShell and run
  `git --version`
- Run the following commands, changing to your Microsoft alias and your name
  - `git config --global user.email "youralias@microsoft.com"`
 - `git config --global user.name "Your Name"`

Pre-Req Software – Visual Studio Code

VS Code – https://code.visualstudio.com/download

- Download and install latest (v1.15+)
- Take all defaults on install, including adding VSCode to the PATH
- Verify installation, open CMD or PowerShell and run **code**
- Install the following extensions:
  - Docker
  - Azure Resource Manager Tools

Install extensions here
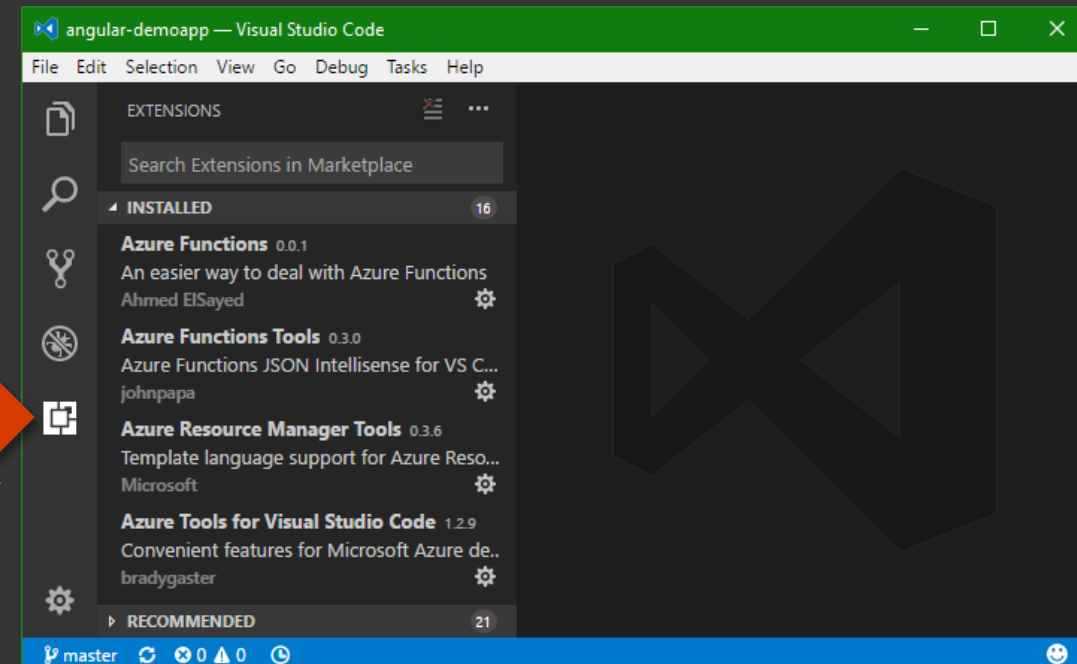
Pre-Req Software - Docker

Docker - https://www.docker.com/docker-windows

- Download and install **Docker CE for Windows** from **Stable Channel**
- Take all defaults on install
- You may need to reboot, and/or start Docker from the Start Menu
- Verify installation - you should have a Docker whale icon in the systray
- You might want to stop Docker auto starting on your laptop at boot
  - Right click whale icon → Settings
  - General → Untick 'Start Docker when you log in'

Cloud Requirements

- Azure subscription (e.g. AIRS or Visual Studio Enterprise)
- VSTS account
  - Go to http://my.visualstudio.com
  - Click 'Get started' on the Visual Studio Team Services tile
  - Name the account something you'll remember
  - Change the settings and put the account in West Europe
  - The name of the initial starting project doesn't matter

Visual Studio Team Servic

Basic level

Free Git repos, Agile planning
tools and hosted builds, for any
language – it's the perfect...

Get started