Containerizing Crosswalk deployment

Overview:

In Deploying Containerized Application to Azure Service Fabric, we learned about containerizing a basic ASP.Net HelloWorld application and deploying it to service fabric cluster.

In this document, we are gonna walk through the steps on how to containerize crosswalk application, that involves dealing with Oracle database dependencies. If you are new to containerizing applications please refer to Deploying Containerized Application to Azure Service Fabric.

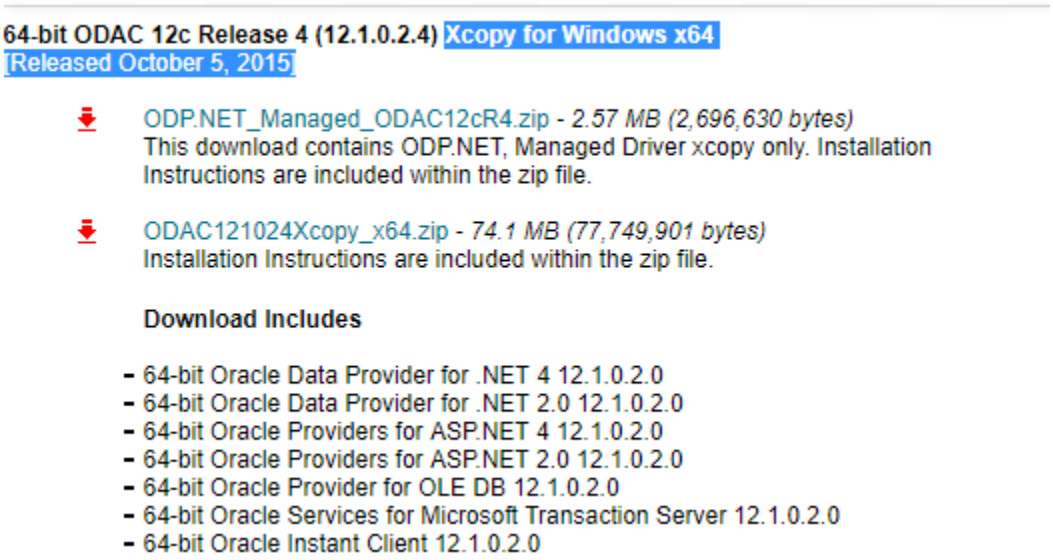
How is Crosswalk application deployment different from HelloWorld Application deployment?

CrossWalk application is a data-driven web application using Oracle Developer Tools. Hence to deploy crosswalk application successfully, Oracle Data Base dependencies are to be installed in the server or container where the application is deployed to.

Installing Oracle DataBase dependencies in a container:

STEP1: Chose the right Oracle database dependency executable.

- For Crosswalk application, we need an Oracle database of version 11gR2
- As we use Xcopy of 11gR2, we have to download it from https://www.oracle.com/technetwork/database/windows/downloads/index-090165.html
- This is can be found under the Xcopy section as given below.



64-bit ODAC 12c Release 4 (12.1.0.2.4) Xcopy for Windows x64
(Released October 5, 2015)

ODP.NET_Managed_ODAC12cR4.zip - *2.57 MB (2,696,630 bytes)*
This download contains ODP.NET, Managed Driver xcopy only. Installation Instructions are included within the zip file.

ODAC121024Xcopy_x64.zip - *74.1 MB (77,749,901 bytes)*
Installation Instructions are included within the zip file.

Download Includes

- 64-bit Oracle Data Provider for .NET 4 12.1.0.2.0
- 64-bit Oracle Data Provider for .NET 2.0 12.1.0.2.0
- 64-bit Oracle Providers for ASP.NET 4 12.1.0.2.0
- 64-bit Oracle Providers for ASP.NET 2.0 12.1.0.2.0
- 64-bit Oracle Provider for OLE DB 12.1.0.2.0
- 64-bit Oracle Services for Microsoft Transaction Server 12.1.0.2.0
- 64-bit Oracle Instant Client 12.1.0.2.0

STEP2: Download the executable.

- Run the iis container provided by Microsoft.
  docker run --name iiscontainer microsoft/iis
- Stop the container before you copy ODAC zip file to the container.
  docker stop iiscontainer
- Copy Xcopy zip file from local machine to the container.
  docker cp C:\Users\anushaande\Downloads\ODAC122010Xcopy_x64.zip iiscontainer:/ODAC122010Xcopy_x64.zip
- Start the container.
  docker start iiscontainer

- Access the container in interactive mode.
  docker exec -it iiscontainer powershell
- make a directory for installation files. It's 'install' in this case.
  mkdir install
- Expand the zip file to the destination to access the files inside the zip folder.
  Expand-Archive -LiteralPath .\ODAC122010Xcopy_x64.zip -DestinationPath C:/install
- Now as this container has an Xcopy version oracle data base, commit the image

docker commit f17d195b7e4c aanusha/iisoracle:v1

STEP3: Install the executable.

The first part of the docker file is to install the Xcopy version of the Oracle database.

This docker file is written in reference to http://www.codesin.net/post/Oracle_ODAC/ blog article.

STEP4: Chose this container to deploy the application.

Second part of the below-given docker file is actual deployment.

```
FROM aanusha/iisoracle:v1

#----------------------------------Part1-----------------------------------------------------#

#Install Chocolatey
RUN @powershell -NoProfile -ExecutionPolicy unrestricted -Command "$env:chocolateyUseWindowsCompression = 'false'; (iex
((new-object net.webclient).DownloadString('https://chocolatey.org/install.ps1'))) >$null 2>&1" && SET PATH=%PATH%;%
ALLUSERSPROFILE%\chocolatey\bin

# this is where the Oracle ODAC Xcopy version has been unzipped into
WORKDIR c:/install

#install ODP.NET 4 32bit, Microsoft Visual C++ 2010 Redistributable Package, Set path to include oracle home
RUN @powershell -NoProfile -ExecutionPolicy unrestricted -Command ".\install.bat odp.net4 c:\oracle myhome true;" \
&& choco install vcredist2010 -y --allow-empty-checksums; \
&& setx /m PATH "%PATH%;C:\oracle"

# this is where the application is copied to
WORKDIR c:/

#----------------------------------Part2-----------------------------------------------------#

#using powershell formatted commands
SHELL ["powershell"]

RUN Install-WindowsFeature NET-Framework-45-ASPNET ; \
Install-WindowsFeature Web-Asp-Net45


COPY CrossWalk CrossWalk


RUN Remove-WebSite -Name 'Default Web Site'


RUN New-Website -Name 'crossWalk' -Port 80 \
-PhysicalPath 'c:\CrossWalk' -ApplicationPool '.NET v4.5'
EXPOSE 80

CMD Write-Host IIS Started... ; \
while ($true) { Start-Sleep -Seconds 3600 }
```