Oracle Developer Cloud használata a gyakorlatban

Magyar Zsanett, Alerant Zrt.
Development and Delivery Automation

- Code
- Plan
- Release
- Deploy
- Measure
- Operate
- Build
- Test
Basic workflow in DevCS
How to begin...

• Register on https://cloud.oracle.com/tryit
• Prerequisites
  – Create Compartment, Group, Policy
  – Add users to the Identity Domain
  – Create Compute Instance
  – Create Object Storage
• Access to the DevCS
  – Configure Connections to Compute and Storage
  – Create a Project
  – Assign users to the Project
**HOUG**

HOUG compartment for users to try out OCI.

- Rename Compartment
- Edit Description
- Add Tag(s)
- Delete

### Compartment Information

**Parent Compartment:** alerantinc (root)

**OCID:** ocid1.compartment.oc1..aaaaaaaoytxpilfhtd4fg7bkjhuuyqqktxj2huvccn37qjhnkn7wtakrya

**Authorized:** Yes

**Created:** Sat, 02 Mar 2019 13:50:08 GMT

### Resources

**Child Compartments:**

- Create Compartment
**Group Information**

**OCID:**
ocid1.group.oc1..aaaaaaa7ja6tgpelcqrnyutz53mcnivaoqg73dp6eynuvyyt5h4qdkua

**Description:** HOUG users

**Created:** Sat, 02 Mar 2019 13:59:10 GMT

**Group Members**

**Group Members (4)**

**Add User to Group**

**houg.user**

**OCID:**
ocid1.user.oc1..aaaaaaaippjzd7s6r3j34lab2r7j4zv5uavpkn gc7bytpxpa7gr3yn7ha

**Description:** HOUG user

**Created:** Sat, 02 Mar 2019 14:02:49 GMT
HOUGPolicy

Policy Information

OCID: 9fct0xsa
Version Date: Keep Policy current
Compartment: alicerant

Description: Policy for HOUGGroup
Created: Mon, 04 Mar 2019 12:21:00 GMT

Statements

Statements (3)

Add Policy Statement

allow group HOUGGroup to manage all-resources in compartment HOUG

allow group HOUGGroup to read all-resources in tenancy
Connect to the OCI

You need to connect to the Oracle Cloud Infrastructure (OCI)

- **Compute** or OCI Compute Classic
  - you need to have a **virtual cloud network** (VCN) and subnet
- **Object Storage** or OCI Object Storage Classic
VCN Information

CIDR Block: 10.0.0.0/16
Compartment: alerantinc (root)/HOU
Created: Tue. 05 Mar 2019 08:38:26 GMT

OCID: ...odzrq Right
Default Route Table: Default Route Table for HOU network
DNS Domain Name: houngnetwork...

Subnets in HOU Compartment

Create Subnet

Sort by: Created Date (Desc)

Displaying 3 Subnets
Instance Information

Availability Domain: unuh-EU-FRANKFURT-1-AD-1
Fault Domain: FAULT-DOMAIN-3
Region: eu-frankfurt-1
Shape: VM.Standard2.1
Virtual Cloud Network: HOUG_Network
Maintenance Reboot: -

Image: Oracle-Linux-7.6-2019.02.20-0
OCID: ...pkxgg Show Copy
Launched: Tue, 05 Mar 2019 08:41:45 GMT
Compartment: alerantcc (root)/HOUG
Launch Mode: NATIVE

Primary VNIC Information

Private IP Address: 10.0.0.2
Public IP Address: 130.61.33.21
Internal FQDN: houg-instance-1... Show Copy
Subnet: Public Subnet unuh-EU-FRANKFURT-1-AD-1
Creating a Bucket

- In the Oracle Cloud Infrastructure Object Storage service, a **bucket** is a container for storing **objects** in a compartment within an Object Storage namespace.

- A bucket is associated with a single **compartment**.

- The compartment has **policies** that indicate what actions a user can perform
  - on a bucket and
  - all the objects in the bucket.
Get the OCI Input Values

To connect to OCI, you need

- the account's **Tenancy OCID**,  
- home region,  
- the **compartment's OCID** that hosts DevCS resources, and  
- the **user's OCID** and **fingerprint**  
- OCI Object **Storage namespace**.

You can get these values from the OCI Console pages.
Organization

Account Type

OCI

OCI Credentials

Enter your OCI credentials below. We will use this account for storing artifacts and running builds.

* Tenancy OCID: ocid1.tenancy.oc1..aaaaaaacelruyjalelz4s6ne2whig2ewciqs7kwwfiddueb732w2s3bq
* User OCID: ocid1.user.oc1..aaaaaaaaipjzjd7s8ifj3ji34lab2r7j4v5uapvknqc7bytpxpa7gi3yh7ha
* Home Region: EU-FRANKFURT-1
* Private Key: ************

Passphrase

* Fingerprint: ************
How to use the DevCS?
Create a DevCS Project

• You must create an **instance** of DevCS before you can start using it

• From the Organization page, you can create an
  – empty project,
  – a project **with a Git repository**, 
  – or create a project from a template.

• To upload application files soon after creating a project, create a project **with an initial Git repository**. [https://github.com/ZsanettMagyar/flask](https://github.com/ZsanettMagyar/flask)

• Use the Maven **repository** to upload library files and dependencies.
Wiki Markup: Markdown

Initial Repository:
- Import existing repository

Repository URL: https://github.com/username/repodoesnotexist.git

Credentials for non-public repos
flask

source dir

Source files for a "Hello world" flask application

conf dir

Configuration repository for "flask" project
Access external Docker registries

• you can link an external Docker registry, such as DockerHub, to your project

• https://hub.docker.com/r/zsanettmagyar/houg.flask
zsanettmagyar/houg.flask  ☆
By zsanettmagyar • Updated 10 days ago

Tags (2)

1.1.0  35 MB
Last update: 10 days ago

1.0.0  35 MB
Build applications

- A **Build Virtual Machine (VM)** is
  - an OCI Compute or an OCI Compute Classic VM that runs builds of jobs defined in the DevCS projects.

- A **Build VM Template** defines
  - the operating system and the software installed on Build VMs.

- A **Job** is
  - a configuration that defines the builds of your application.

- A **Build** is
  - a result of a job’s run.
Oracle Developer Cloud Service

Organization

Projects  OCI Account  Build Virtual Machines  Virtual Machines Templates  Properties

Create Template

OL7
Created March 21 2019

Oracle Linux 7

Software Packages

<table>
<thead>
<tr>
<th>NAME</th>
<th>VERSION</th>
<th>STORAGE (MB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Docker 17.12</td>
<td>17.12.1</td>
<td>100</td>
</tr>
<tr>
<td>Python3 3.6</td>
<td>3.6.5</td>
<td>194</td>
</tr>
<tr>
<td>Required Build VM Components</td>
<td>1.8.3</td>
<td>100</td>
</tr>
</tbody>
</table>
Organization

Projects  OCI Account  Build Virtual Machines  Virtual Machines Templates  Properties

Filter Software Packages

Show latest versions only

Docker 17.12
Docker containerization platform
Version: 17.12.1
Requires: 100 MB

Docker 1
Docker containerization platform
Version: 1.12.6
Requires: 79 MB

FindBugs 3
Find bugs in Java programs
Version: 3.0.1
Requires: 12 MB

Fn 0
Fn Serverless Platform Software
Version: 0.5.6
Requires: 200 MB

Gradle 4
Gradle build automation tool
Version: 4.1
Requires: 74 MB

Gradle 3
Gradle build automation tool
Version: 3.5.1
Requires: 82 MB

Gradle 2
Gradle build automation tool

Kubectl
Kubernetes Command Line Interface

Selected Software
Requires: 394 MB

- Docker 17.12
  Version: 17.12.1
  Requires: 100 MB

- Python3 3.8
  Version: 3.8.5
  Requires: 194 MB

Required Build VM Components

- Version: 1.8.3
  Requires: 100 MB
Configure Steps

Docker login

Docker logout will be performed automatically at the end of all build steps.

- **Registry Host**: DockerHub
  - **Username**: zsanettmagyar
  - **Password**: 

Docker build

- **Registry Host**: DockerHub
- **Image Name**: zsanettmagyar/houg.flask
- **Version Tag**: 1.1.0
- **Full Image Name**: registry-1.docker.io/zsanettmagyar/houg.flask:1.1.0
- **Options**: options
2019-04-01 09:02:19 --> f5507c704e7
2019-04-01 09:02:19 Successfully built f5507c704e7
2019-04-01 09:02:19 Successfully tagged registry-1.docker.io/zsanettmagyar/houg.flash:1.1.0
2019-04-01 09:02:19 Using docker /bin/docker
2019-04-01 09:02:19 /bin/docker push registry-1.docker.io/zsanettmagyar/houg.flash:1.1.0
2019-04-01 09:02:20 The push refers to repository [registry-1.docker.io/zsanettmagyar/houg.flash]
2019-04-01 09:02:20 dbda0ba06572: Preparing
2019-04-01 09:02:20 6b0dca259f93: Preparing
2019-04-01 09:02:20 0e97df5cf0d1f: Preparing
2019-04-01 09:02:20 513323c669f: Preparing
2019-04-01 09:02:20 30e8a3d88591: Preparing
2019-04-01 09:02:20 fd8f6c5cd65a: Preparing
2019-04-01 09:02:20 6b0dca259f93: Preparing
2019-04-01 09:02:20 dbda0ba06572: Preparing
2019-04-01 09:02:20 cd7100a72410: Preparing
2019-04-01 09:02:20 fd8f6c5cd65a: Waiting
2019-04-01 09:02:20 6b0dca259f93: Waiting
2019-04-01 09:02:20 cd7100a72410: Waiting
2019-04-01 09:02:21 0e97df5cf0d1f: Layer already exists
2019-04-01 09:02:21 513323c669f: Layer already exists
2019-04-01 09:02:21 dbda0ba06572: Layer already exists
2019-04-01 09:02:21 30e8a3d88591: Layer already exists
2019-04-01 09:02:21 6b0dca259f93: Layer already exists
2019-04-01 09:02:22 fd8f6c5cd65a: Layer already exists
2019-04-01 09:02:22 6b0dca259f93: Layer already exists
2019-04-01 09:02:22 cd7100a72410: Layer already exists
2019-04-01 09:02:23 1.1.0 digest: sha256:76da7d5c74d66b0e1619d5d67fae5a4c8540c1ef678c0c9c83b65391c47a68 size: 1993
2019-04-01 09:02:23 Using docker /bin/docker
2019-04-01 09:02:23 /bin/sh -c mkdir -p 'dirname zsanettmagyar/houg.flash:1.1.0.tar'
2019-04-01 09:02:23 /bin/docker save --output zsanettmagyar/houg.flash:1.1.0.tar registry-1.docker.io/zsanettmagyar/houg.flash:1.1.0
2019-04-01 09:02:23 BEGIN shell script execution with /bin/sh -ex
2019-04-01 09:02:25 ls -l /tmp/zsanettmagyar/houg.flash:1.1.0.tar
2019-04-01 09:02:25 -rw------- 1 builder builder 100274588 Apr 1 09:02 zsanettmagyar/houg.flash:1.1.0.tar
2019-04-01 09:02:25 END shell script execution
Deploy an application

• You can deploy your project’s build artifacts
  – to Oracle Java Cloud Service (JCS),
  – to Oracle Application Container Cloud Service (ACCS),
  – and to Oracle Java Cloud Service - SaaS Extension (JCS-SX) from Oracle Developer Cloud Service (DevCS) without leaving its web interface.

• DevCS provides tools to build and deploy your Java, Java EE, PHP, and Node.js applications to ACCS.

**WORKAROUND:** Deploy Job
Job Configuration

Configure Steps

**Docker login**

Docker logout will be performed automatically at the end of all build steps.

<table>
<thead>
<tr>
<th>Registry Host</th>
<th>DockerHub</th>
</tr>
</thead>
<tbody>
<tr>
<td>Username</td>
<td>zsanettmagyar</td>
</tr>
<tr>
<td>Password</td>
<td>**********</td>
</tr>
</tbody>
</table>

**Docker images**

Options

<table>
<thead>
<tr>
<th>Registry Host</th>
<th>DockerHub</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image Name</td>
<td>e.g., <code>john doe/my_hello_world</code></td>
</tr>
</tbody>
</table>
Trigger a build

• You can configure a job to monitor its Git repositories and trigger a build automatically after a commit is pushed to the Git repository.
```python
from flask import Flask
app = Flask(__name__)
@app.route("/")
def hello():
    return "Hello HOUG!"
if __name__ == "__main__":
    app.run(host='0.0.0.', port=5000)
```
Build Details

No description available

Result: Successful

Reason: Build started by SCM changes

Build Time: April 1, 2019 10:55 AM +0200

Duration: 35 secs

Keep forever: false
Pipeline

• A Pipeline lets you define dependencies of jobs and create a path or a chain of builds.

• You use the pipeline designer to create a pipeline diagram, that defines dependencies between jobs and the order of their builds.

• **Pipeline types**
  – One-to-One Dependency
  – One-to-Many Dependency
  – Many-to-One Dependency
Agile & collaboration

- **Team members** access to project

- In Oracle Developer Cloud Service (DevCS), you use the Agile methodology to manage issues in **Scrum and Kanban boards**.

- **Issues** help you track new feature requests or enhancements, assign tasks to team members, or file bugs.

- **Issue types:**
  - Task
  - Defect
  - Feature
  - Epic (Agile Scrum board)
  - Story (Agile Scrum board)
thank you