

## MBA - ARQUITETURA DE SOLUÇÕES - 8ASOO

### Solution Sprint

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Criação de um projeto Red Hat – OpenShift:

```
PowerShell drive d:silmar
PS C:\mba> oc new-project rm-343001
Already on project "rm-343001" on server "https://api.na46a.prod.ole.redhat.com:6443".

You can add applications to this project with the 'new-app' command. For example, try:

    oc new-app rails-postgresql-example

to build a new example application in Ruby. Or use kubectl to deploy a simple Kubernetes application:

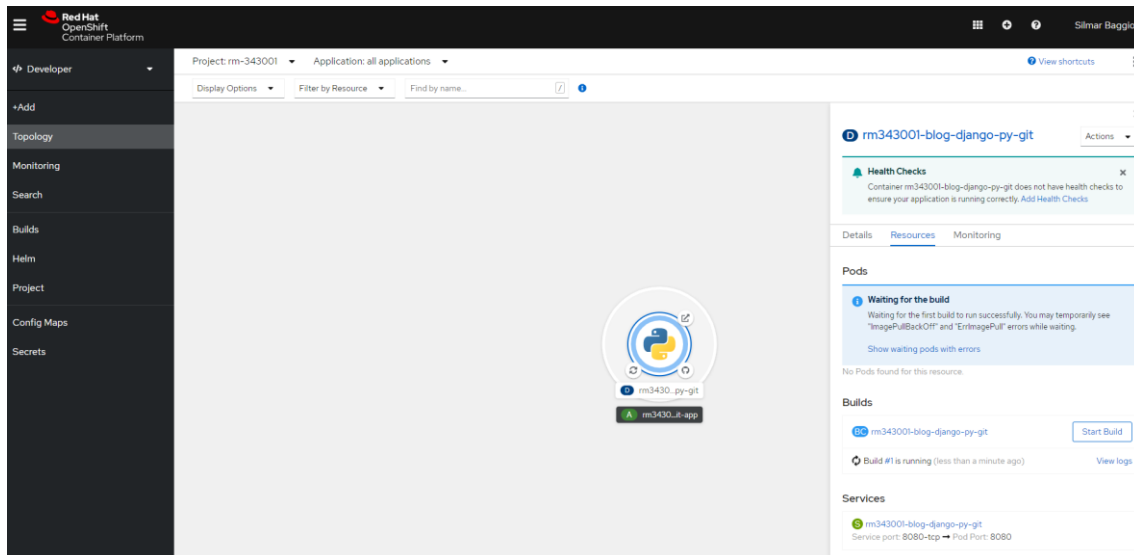
    kubectl create deployment hello-node --image=k8s.gcr.io/e2e-test-images/agnhost:2.33 -- /agnhost serve-hostname

PS C:\mba> oc projects
You have access to the following projects and can switch between them with 'project <projectname>':

* rm-343001
  rm-343001-aula2 - silmar baggio
  rm-343001-aula4

Using project "rm-343001" on server "https://api.na46a.prod.ole.redhat.com:6443".
PS C:\mba> |
```

Pelo OpenShift foi clonado uma aplicação do Git e automaticamente realizado o build dela.



Após o Build o App opera com apenas um pod do container do app conforme abaixo:

```
PowerShell drive d:silmar
PS C:\mba> oc get pods
NAME                                READY   STATUS    RESTARTS   AGE
rm343001-blog-django-py-git-1-build 0/1     Completed 0           3m49s
rm343001-blog-django-py-git-5688df564f-q8cph 1/1     Running   0           2m12s
PS C:\mba> |
```

## **D** rm343001-blog-django-py-git

Actions ▾



### Health Checks



Container rm343001-blog-django-py-git does not have health checks to ensure your application is running correctly. [Add Health Checks](#)

Details

Resources

Monitoring



#### Name

rm343001-blog-django-py-git

#### Update Strategy

RollingUpdate

#### Namespace

**NS** rm-343001

#### Max Unavailable

25% of 1 pod

#### Labels

Edit

#### Max Surge

25% greater than 1 pod

a... =rm343001-blog-django-py...

app.kubern... =rm343001-blo...

app.kubern... =rm343001-blo...

app.kubernetes.io/name=python

app.kubern... =rm343001-blog-...

app.openshift.io/runtime=python

app.openshift.io/runtim... =3.8-...

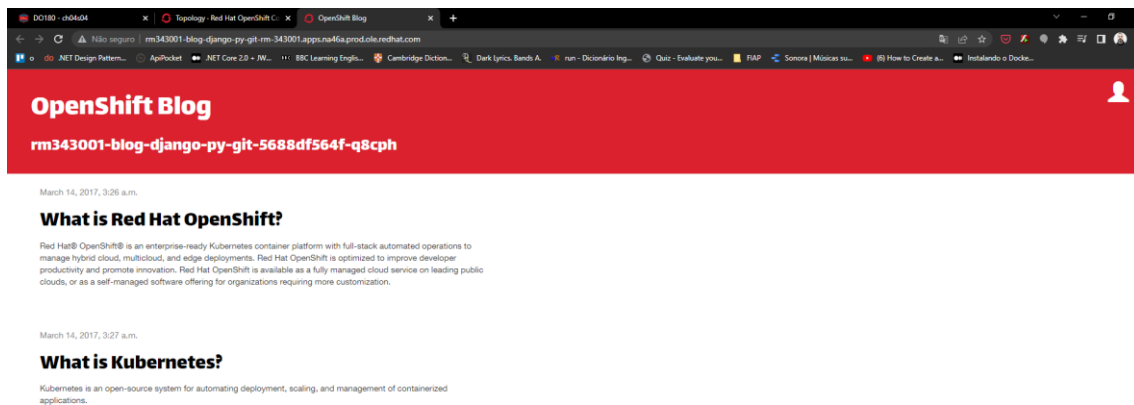
#### Progress Deadline Seconds

600 seconds

#### Min Ready Seconds

Not Configured

O App depois de clonado e de ter feito o build está rodando da seguinte forma:



Efetuando o deploy de um database para APP do Blog, conforme abaixo:

```
PowerShell drive d:\silmar
POSTGRESQL_USER=sampled
--param POSTGRESQL_PASSWORD=sampled --param POSTGRESQL_DATABASE=sampled
--> Deploying template "openshift/postgresql-persistent" to project rm-343001

PostgreSQL
-----
PostgreSQL database service, with persistent storage. For more information about using this template, including OpenShift considerations, see https://github.com/sclorg/postgresql-container/.

NOTE: Scaling to more than one replica is not supported. You must have persistent volumes available in your cluster to use this template.

The following service(s) have been created in your project: sample-database.

Username: sampled
Password: sampled
Database Name: sampled
Connection URL: postgresql://sample-database:5432/

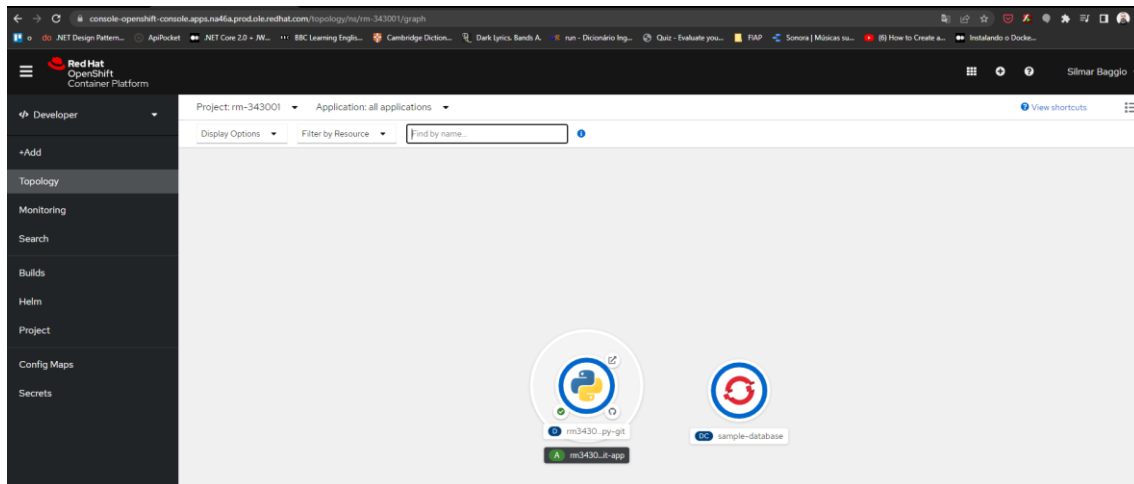
For more information about using this template, including OpenShift considerations, see https://github.com/sclorg/postgresql-container/.

* With parameters:
* Memory Limit=512Mi
* Namespace=openshift
* Database Service Name=sample-database
* PostgreSQL Connection Username=sampled
* PostgreSQL Connection Password=sampled
* PostgreSQL Database Name=sampled
* Volume Capacity=1Gi
* Version of PostgreSQL Image=10-el8

--> Creating resources ...
secret "sample-database" created
service "sample-database" created
persistentvolumeclaim "sample-database" created
deploymentconfig.apps.openshift.io "sample-database" created
--> Success
Application is not exposed. You can expose services to the outside world by executing one or more of the commands below:
'oc expose service/sample-database'
Run 'oc status' to view your app.
PS C:\mba> |
```

Agora temos um pod do banco rodando também, conforme abaixo:

```
PowerShell drive d:\silmar
PS C:\mba> oc get pods
NAME                                READY    STATUS    RESTARTS   AGE
rm343001-blog-django-py-git-1-build 0/1      Completed 0           21m
rm343001-blog-django-py-git-5688df564f-q8cph 1/1      Running   0           20m
sample-database-1-deploy             0/1      Completed 0           63s
sample-database-1-zkcs1              1/1      Running   0           60s
PS C:\mba> |
```

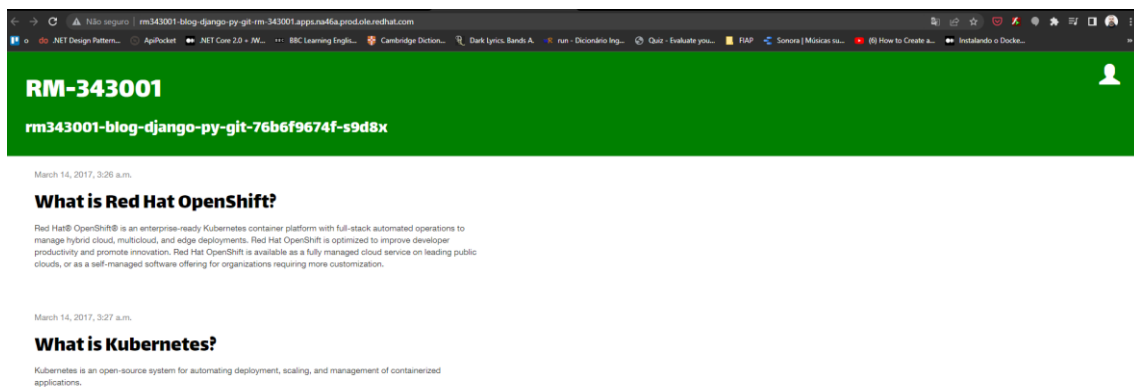


Configurando algumas variáveis de ambientes:

```

PS C:\mba> oc get deployment
NAME                                READY    UP-TO-DATE    AVAILABLE    AGE
rm343001-blog-django-py-git        1/1      1              1            33m
PS C:\mba> oc set env deployment/rm343001-blog-django-py-git BLOG_SITE_NAME='RM-343001'
deployment.apps/rm343001-blog-django-py-git updated
PS C:\mba> oc set env deployment/rm343001-blog-django-py-git BLOG_BANNER_COLOR='Green'
deployment.apps/rm343001-blog-django-py-git updated
PS C:\mba>

```

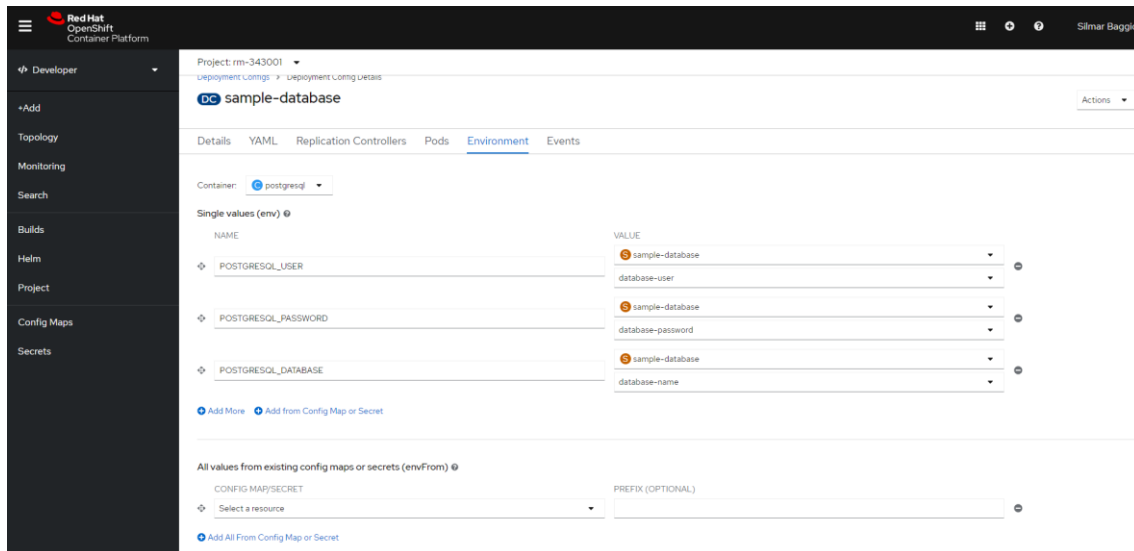


Conectando a aplicação com o banco de dados:

```

PS C:\mba> oc get deployment
NAME                                READY    UP-TO-DATE    AVAILABLE    AGE
rm343001-blog-django-py-git        1/1      1              1            41m
PS C:\mba> oc set env deployment/rm343001-blog-django-py-git DATABASE_URL=postgresql://sampledb:sampledb@sample-database:5432/sampledb
deployment.apps/rm343001-blog-django-py-git updated
PS C:\mba>

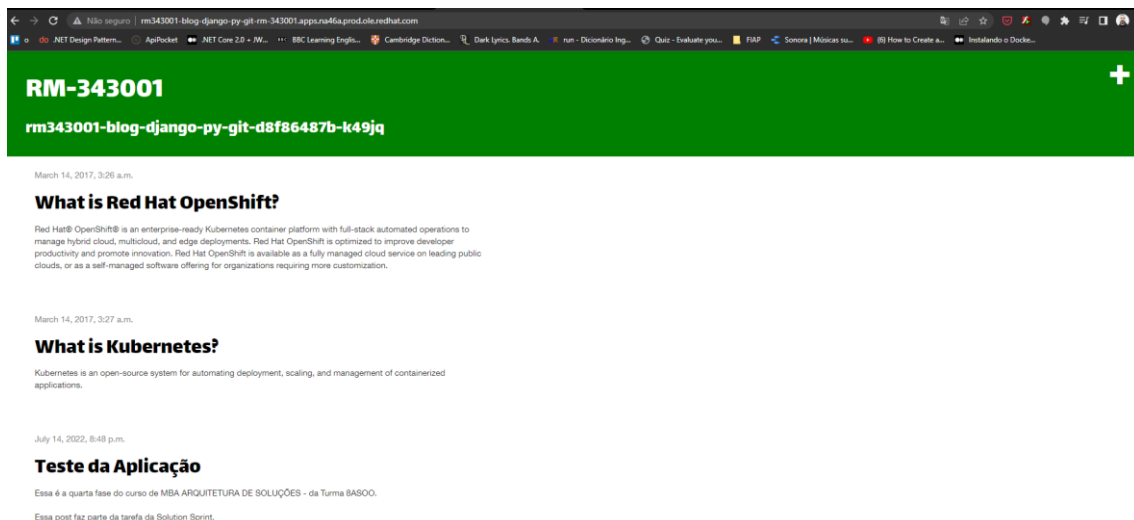
```



Conectando no container com rsh:

```
PS C:\mba> oc get pods
NAME                                READY   STATUS    RESTARTS   AGE
rm343001-blog-django-py-git-1-build 0/1     Completed 0           43m
rm343001-blog-django-py-git-d8f86487b-k49jq 1/1     Running   0           104s
sample-database-1-deploy             0/1     Completed 0           22m
sample-database-1-zkcs1              1/1     Running   0           22m
PS C:\mba> oc rsh rm343001-blog-django-py-git-d8f86487b-k49jq
(app-root) sh-4.2$ cp .s2i/action_hooks/setup .
(app-root) sh-4.2$ ./setup
-----> Running Django database table migrations.
Operations to perform:
  Apply all migrations: admin, auth, blog, contenttypes, sessions
Running migrations:
  No migrations to apply.
-----> Running Django super user creation
Username (Leave blank to use '1006300000'): rm343001
Email address: rm343001@fiap.com.br
Password:
Password (again):
Superuser created successfully.
-----> Pre-loading Django database with blog posts.
Installed 2 object(s) from 1 fixture(s)
(app-root) sh-4.2$ |
```

Testando a conexão com o banco:



Adicionando HPC (Horizontal Pod Autoscalers):

```
PS C:\mba> oc apply -f HPA-aula4.yml
horizontalpodautoscaler.autoscaling/hpa-fiap-rm343001 unchanged
PS C:\mba> oc get hpa
NAME                REFERENCE                                TARGETS   MINPODS   MAXPODS   REPLICAS   AGE
hpa-rm343001        Deployment/rm343001-blog-django-py-git   0%/50%    1          3          1          45s
PS C:\mba> oc get pods
NAME                                READY   STATUS    RESTARTS   AGE
rm343001-blog-django-py-git-1-build 0/1     Completed 0           86m
rm343001-blog-django-py-git-d8f86487b-k49jq 1/1     Running   0           44m
sample-database-1-deploy             0/1     Completed 0           65m
sample-database-1-zkcs1              1/1     Running   0           65m
PS C:\mba> |
```

Events

Operators

Workloads

Pods

Deployments

Deployment Configs

Stateful Sets

Secrets

Config Maps

Cron Jobs

Jobs

Daemon Sets

Replica Sets

Replication Controllers

Horizontal Pod Autoscalers

Networking

Storage

Builds

Compute

Project: rm-343001

Horizontal Pod Autoscalers

Horizontal Pod Autoscaler Details

HPA hpa-rm343001

DetailsYAMLEvents

Horizontal Pod Autoscaler Details

Namehpa-rm343001

Namespacerm-343001

LabelsNo labels

AnnotationsAnnotations

Created Ata few seconds ago

OwnerNo owner

Scale Targetrm343001-blog-django-py-git

Min Replicas1

Max Replicas3

Last Scale Time-

Current Replicas0

Desired Replicas0

Metrics

Type	Current	Target
resource cpu (as a percentage of request)	-	50%

Project: rm-343001

Deployments

Deployment Details

rm343001-blog-django-py-git

DetailsYAMLReplica SetsPodsEnvironmentEvents

Deployment Details

Autoscaled to 1

Name

rm343001-blog-django-py-git

Namespace

rm-343001

Labels

app=rm343001-blog-django-py-git

app.kubernetes.io/component=rm343001-blog-django-py-git

app.kubernetes.io/instance=rm343001-blog-django-py-git

app.kubernetes.io/name=python

app.kubernetes.io/part-of=rm343001-blog-django-py-git-app

app.openshift.io/runtime=python

app.openshift.io/runtime-version=3.8-ubi7

Pod Selector

app=rm343001-blog-django-py-git

Update Strategy

RollingUpdate

Max Unavailable

25% of 1 pod

Max Surge

25% greater than 1 pod

Progress Deadline Seconds

600 seconds

Min Ready Seconds

Not Configured