一步一步完成GitLab Runner持续化自动部署

本文将以Ubuntu16.04.4+Docker自动化部署Dotnetcore项目

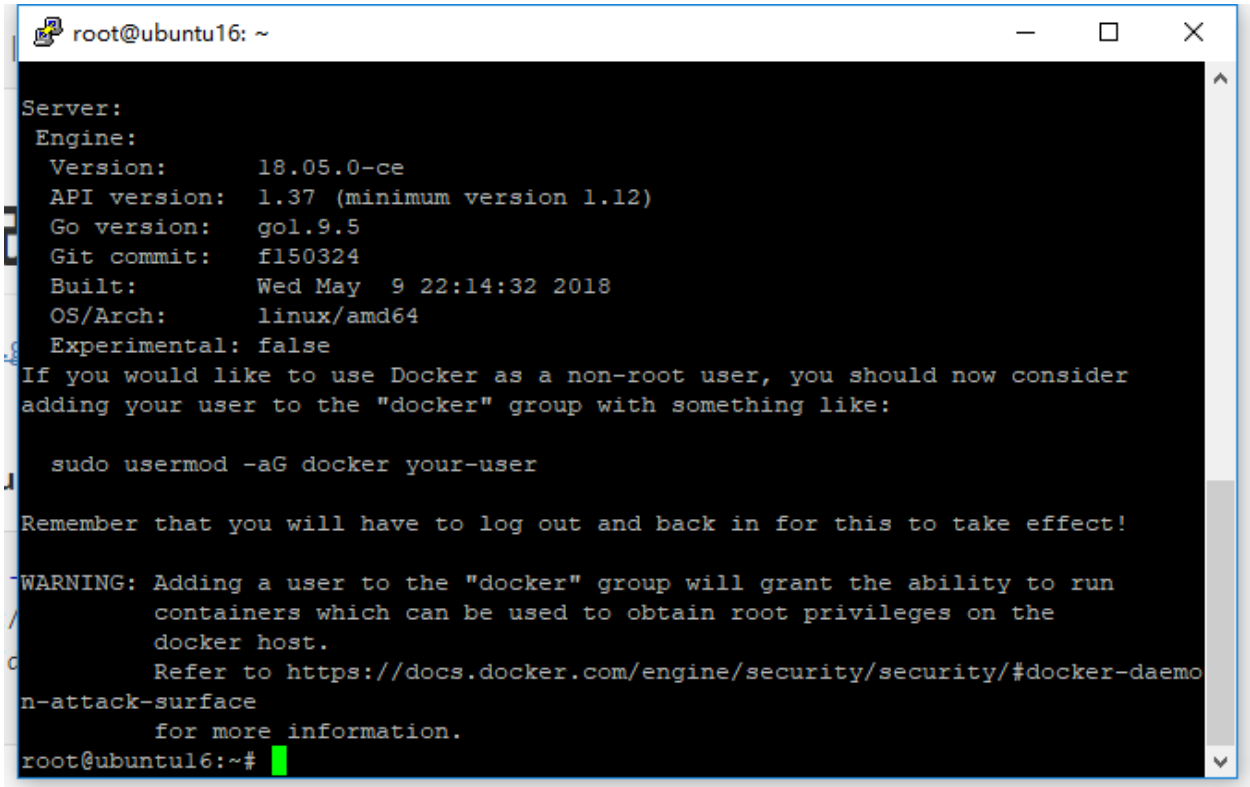
1.安装gitlab

- 安装使用本地离线安装,下载相应包后直接安装即可,然后安装配置web地址等等,这个在网上很多示例,这里不再赘述.

2.Ubuntu安装Docker

- 使用官方脚本安装Docker,安装源为阿里云

```
curl -fsSL https://get.docker.com | bash -s docker --mirror Aliyun
```



3.在Docker安装并配置GitLab Runner

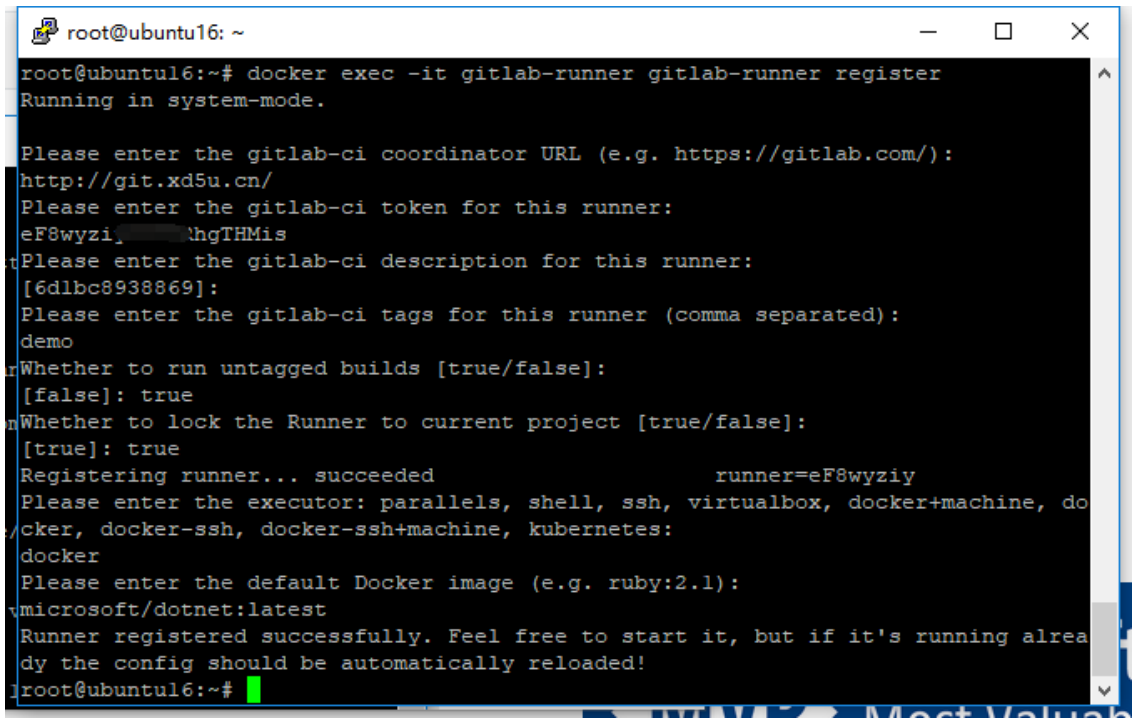
- 参考官网地址Girlab Runner https://docs.gitlab.com/runner/install/
- 在Docker安装GitLab Runner
  - **1.使用命令在Docker中安装Gitlab Runner**

```
docker run -d --name gitlab-runner --restart always \
  -v /srv/gitlab-runner/config:/etc/gitlab-runner \
  -v /var/run/docker.sock:/var/run/docker.sock \
  gitlab/gitlab-runner:latest
```

- 使用阿里云镜像加速,这样在部署的时候会快一点,按照阿里云官网添加即可,不赘述.
- **2.注册并设置Gitlan Runner**
  - 1.访问Gitlab获取 `http://你的gitlab地址/admin/runners`

  - 2.运行 `Gitlab Runner` 注册设置

```
docker exec -it gitlab-runner gitlab-runner register
```



根据提示输入信息

```
Please enter the gitlab-ci coordinator URL (e.g. https://gitlab.com/):
http://git.xd5u.cn/
Please enter the gitlab-ci token for this runner:
eF8wyzi****2RhgTHMis
Please enter the gitlab-ci description for this runner:
[6d1bc8938869]:
```

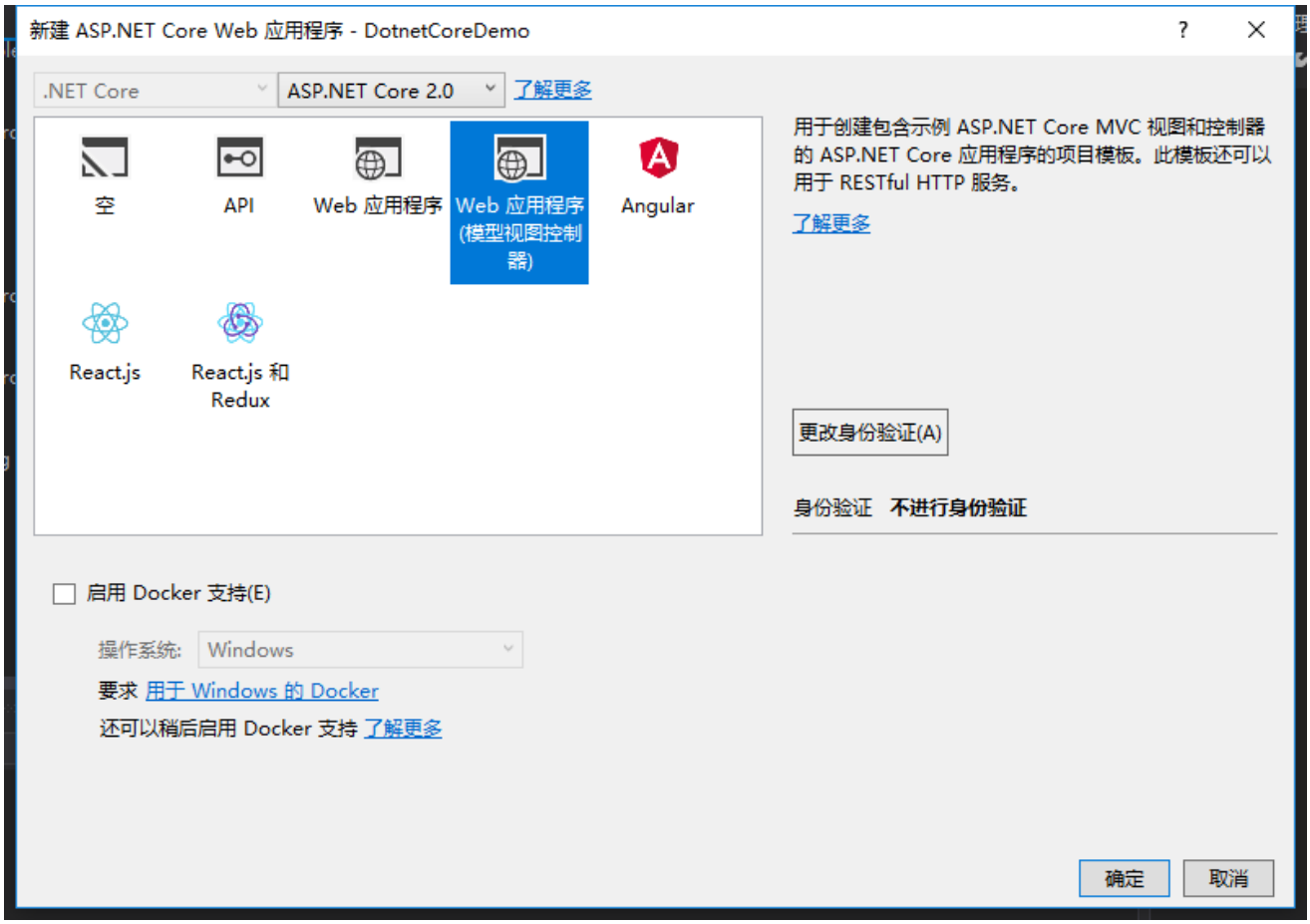
```
Please enter the gitlab-ci tags for this runner (comma separated):
demo
Whether to run untagged builds [true/false]:
[false]: true
Whether to lock the Runner to current project [true/false]:
[true]: true
Registering runner... succeeded                     runner=eF8wyziy
Please enter the executor: parallels, shell, ssh, virtualbox, docker+machine,
docker, docker-ssh, docker-ssh+machine, kubernetes:
docker
Please enter the default Docker image (e.g. ruby:2.1):
microsoft/dotnet:latest
Runner registered successfully. Feel free to start it, but if it's running already
the config should be automatically reloaded!
```

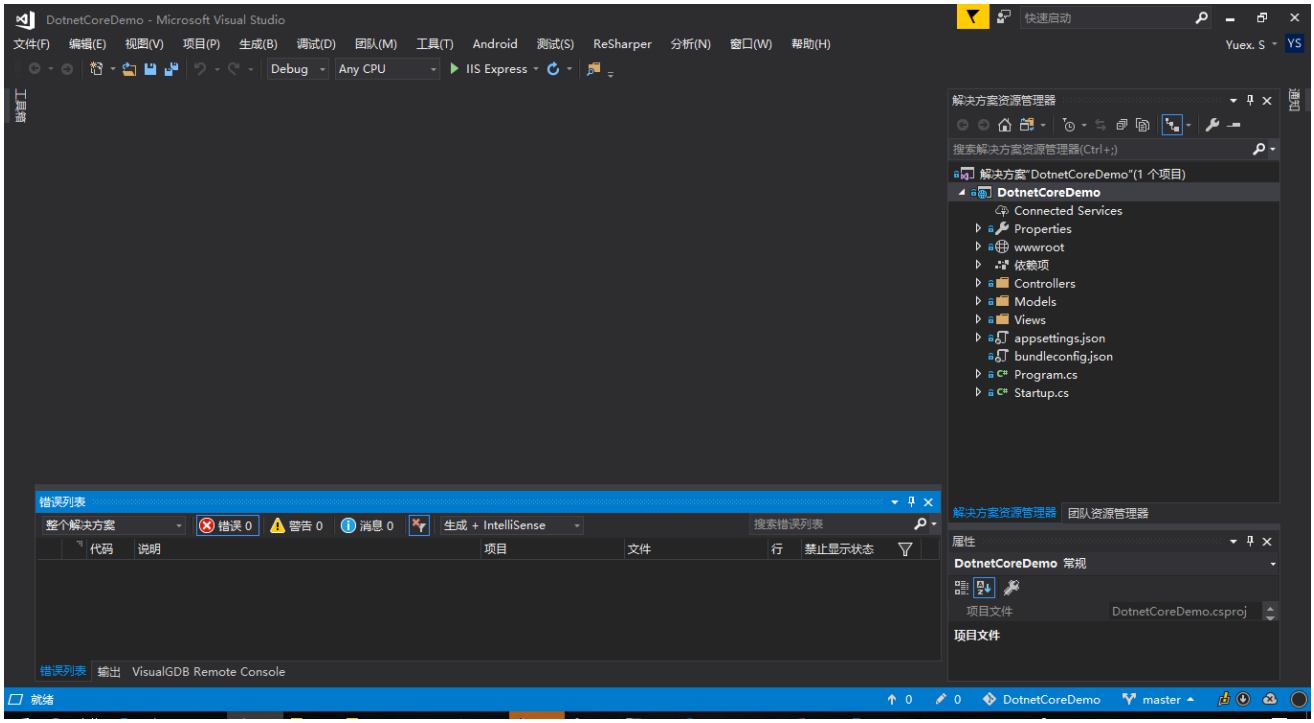
设置了默认源为 `microsoft/dotnet:latest` ,这里时候Runners里面应该已经添加好了

类型	Runner 令牌	描述	版本	IP 地址	项目	作业	标签
特定的 锁定的	10b197f5	6d1bc8938869	10.8.0	127.0.0.1	1	4	demo

4.添加一个dotnetcore测试项目

- **1.创建一个mvc示例**





- **2.在gitlab创建一个项目,并且将刚创建项目提交上去**

5.自动部署脚本.gitlab-ci.yml添加

- **1.添加.gitlab-ci.yml文件**

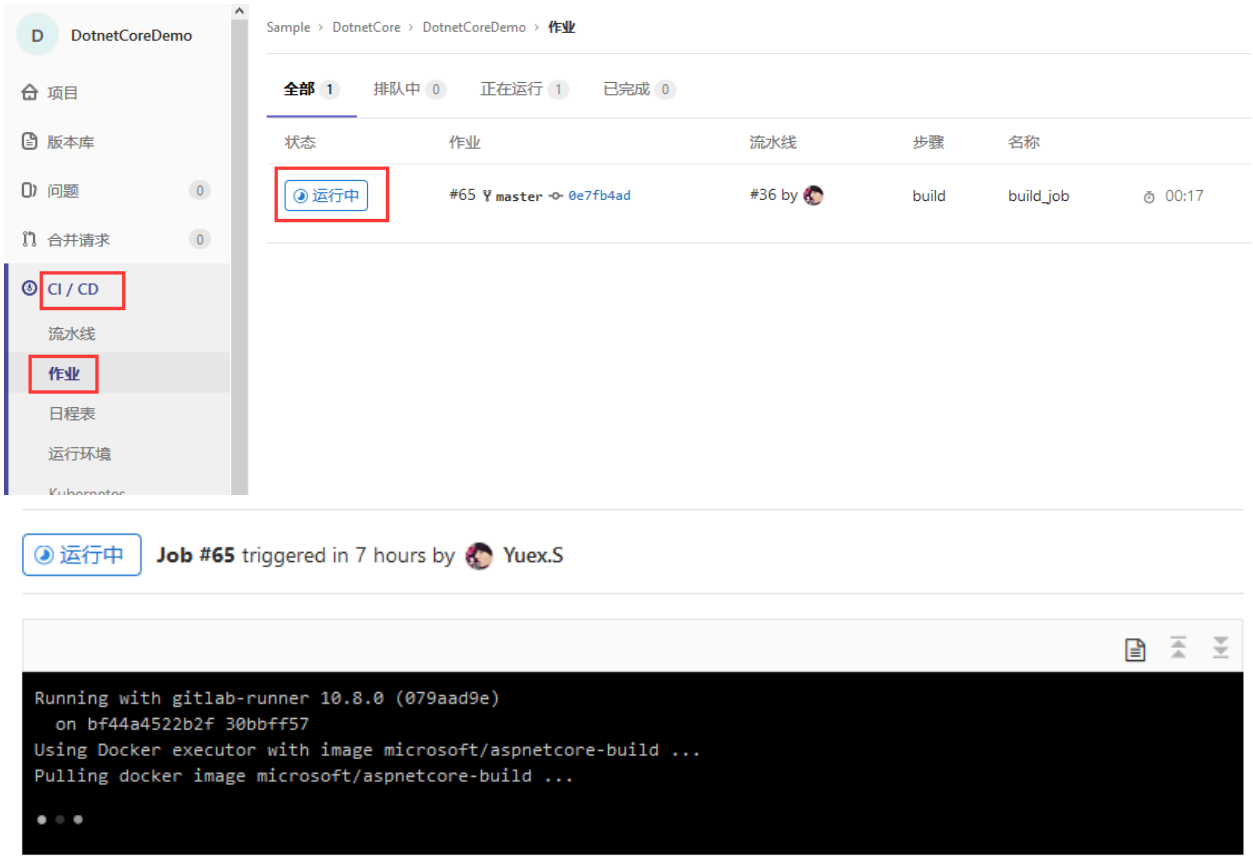

DotnetCoreDemo
星标
0
派生
0
HTTP
http://git.xd5u.cn/Sample/Dotne
全局
文件(1.3 MB)
提交(2)
分支(1)
标签(0)
添加更新日志
添加许可证
添加贡献指南
添加 Kubernetes 集群
配置 CI/CD
master
DotnetCoreDemo /
历史
查找文件
Web IDE
添加项目文件。
由 Yuex.S 提交于 4 分钟前
70b0fe95
名称
最后提交
DotnetCoreDemo
添加项目文件。

还原包并且生成


master
DotnetCoreDemo / .gitlab-ci.yml
添加 .gitlab-ci.yml
由 Yuex.S 提交于 不到 1 分钟前
这个 GitLab CI 配置是有效的。 了解更多
.gitlab-ci.yml 144 Bytes
image: microsoft/aspnetcore-build
stages:
- build
build_job:
stage: build
only:
- master
script:
- dotnet restore
- dotnet build

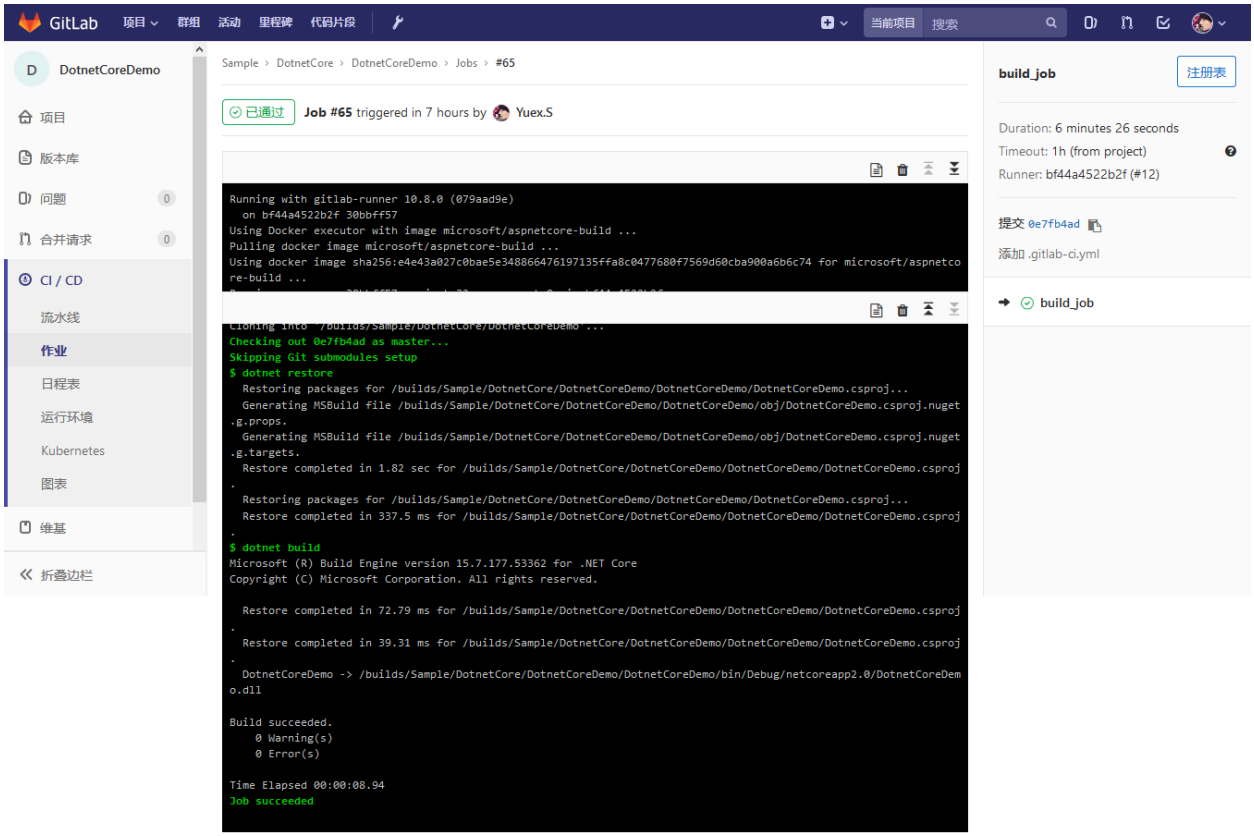
```yaml
# image: microsoft/aspnetcore-build
stages:
  - build
build_job:
  stage: build
  only:
    - master
  script:
  - dotnet restore
  - dotnet build
```

保存后就应该已经在运行中了



第一次部署,正在获取`microsoft/aspnetcore-build`镜像,这里如果很慢的话,可以使用阿里云镜像加速

下面是完成后的截图



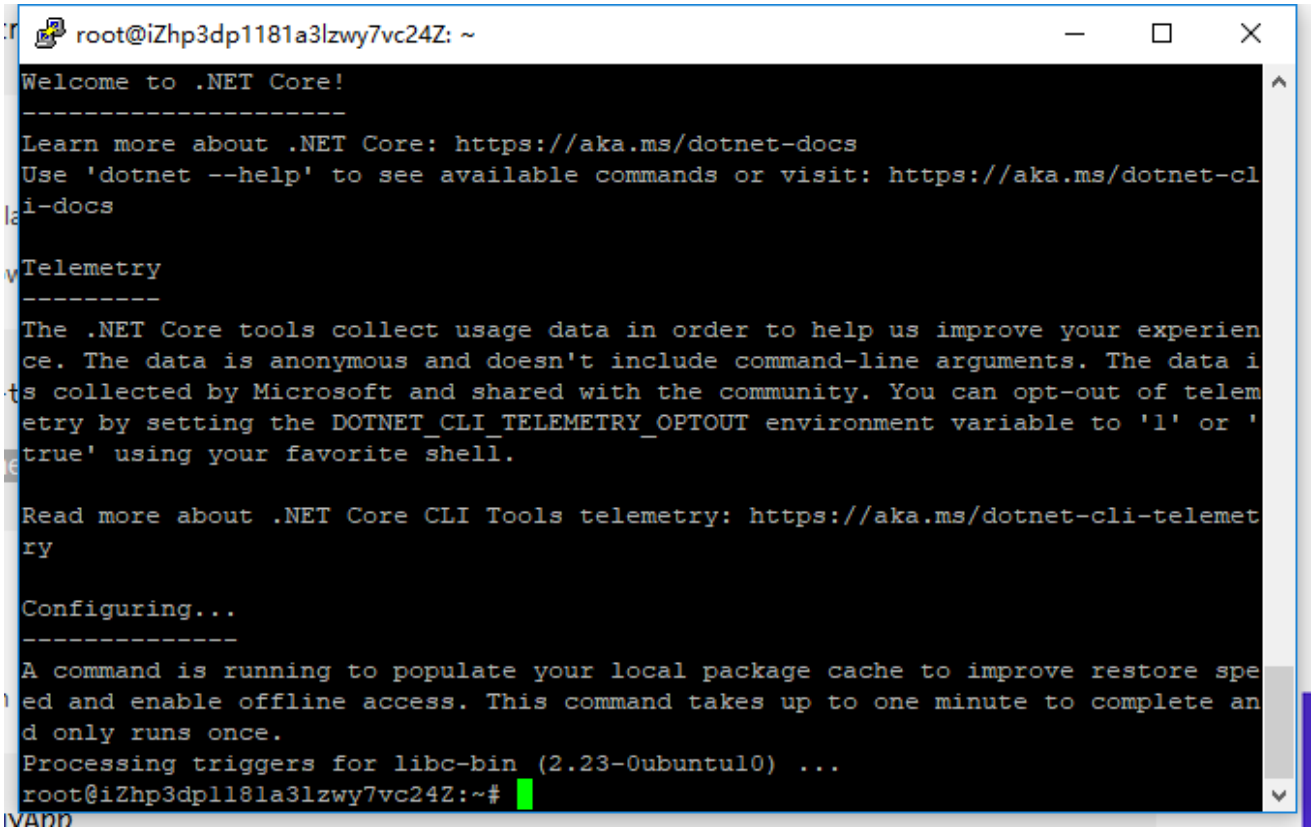
这里测试生成已经正常了,在这步可以还可以做部署测试等等,测试完成了再部署.

6.部署到web服务器

我这里使用阿里云作为部署服务器,再服务器安装好运行环境.我是ASP.NET Core+Nginx,下面开始搭建.

1.安装dotnet-sdk

参考官网,这里不赘述:https://www.microsoft.com/net/learn/get-started/linux/ubuntu16-04



2.安装Nginx并配置

- 安装nginx

```
sudo apt-get install nginx
```

- 启动nginx

```
sudo service nginx start
```

```
root@iZhp3dp1181a3lzwy7vc24Z: ~
Selecting previously unselected package nginx.
Preparing to unpack .../nginx_1.10.3-0ubuntu0.16.04.2_all.deb ...
Unpacking nginx (1.10.3-0ubuntu0.16.04.2) ...
Processing triggers for man-db (2.7.5-1) ...
Processing triggers for libc-bin (2.23-0ubuntu10) ...
Processing triggers for ureadahead (0.100.0-19) ...
Processing triggers for ufw (0.35-0ubuntu2) ...
Processing triggers for systemd (229-4ubuntu21.2) ...
Setting up fonts-dejavu-core (2.35-1) ...
Setting up fontconfig-config (2.11.94-0ubuntu1.1) ...
Setting up libfontconfig1:amd64 (2.11.94-0ubuntu1.1) ...
Setting up libvpx3:amd64 (1.5.0-2ubuntu1) ...
Setting up libxpm4:amd64 (1:3.5.11-1ubuntu0.16.04.1) ...
Setting up libgd3:amd64 (2.1.1-4ubuntu0.16.04.8) ...
Setting up libxslt1.1:amd64 (1.1.28-2.1ubuntu0.1) ...
Setting up nginx-common (1.10.3-0ubuntu0.16.04.2) ...
Setting up nginx-core (1.10.3-0ubuntu0.16.04.2) ...
Setting up nginx (1.10.3-0ubuntu0.16.04.2) ...
Processing triggers for libc-bin (2.23-0ubuntu10) ...
Processing triggers for systemd (229-4ubuntu21.2) ...
Processing triggers for ureadahead (0.100.0-19) ...
Processing triggers for ufw (0.35-0ubuntu2) ...
root@iZhp3dp1181a3lzwy7vc24Z:~# sudo service nginx start
root@iZhp3dp1181a3lzwy7vc24Z:~#
```

- 启动后访问ip测试nginx是否已经正常

3.现在环境已经搭建好了,继续配置nginx以及添加一个dotnetcore运行的服务和创建web路径

1.修改nginx的默认配置(实际可以添加配置文件,绑定域名,我这里就不分配域名了)

```
vim /etc/nginx/sites-available/default
修改为内容,主要是代理5000端口
server {
    listen        80;
    location / {
        proxy_pass         http://localhost:5000;
        proxy_http_version 1.1;
        proxy_set_header   Upgrade $http_upgrade;
        proxy_set_header   Connection keep-alive;
        proxy_set_header   Host $http_host;
        proxy_cache_bypass $http_upgrade;
    }
}
```

修改保存后重新加载配置文件

```
sudo nginx -t
sudo nginx -s reload
```

现在访问地址应该是502错误,不用管他,因为我们dotnetcore网站还没运行

2.创建一个目录用于部署DotnetCoreDemo项目的目录

```
mkdir /var/www/DotnetCoreDemo
```

稍后网站以及服务会再这个目录执行

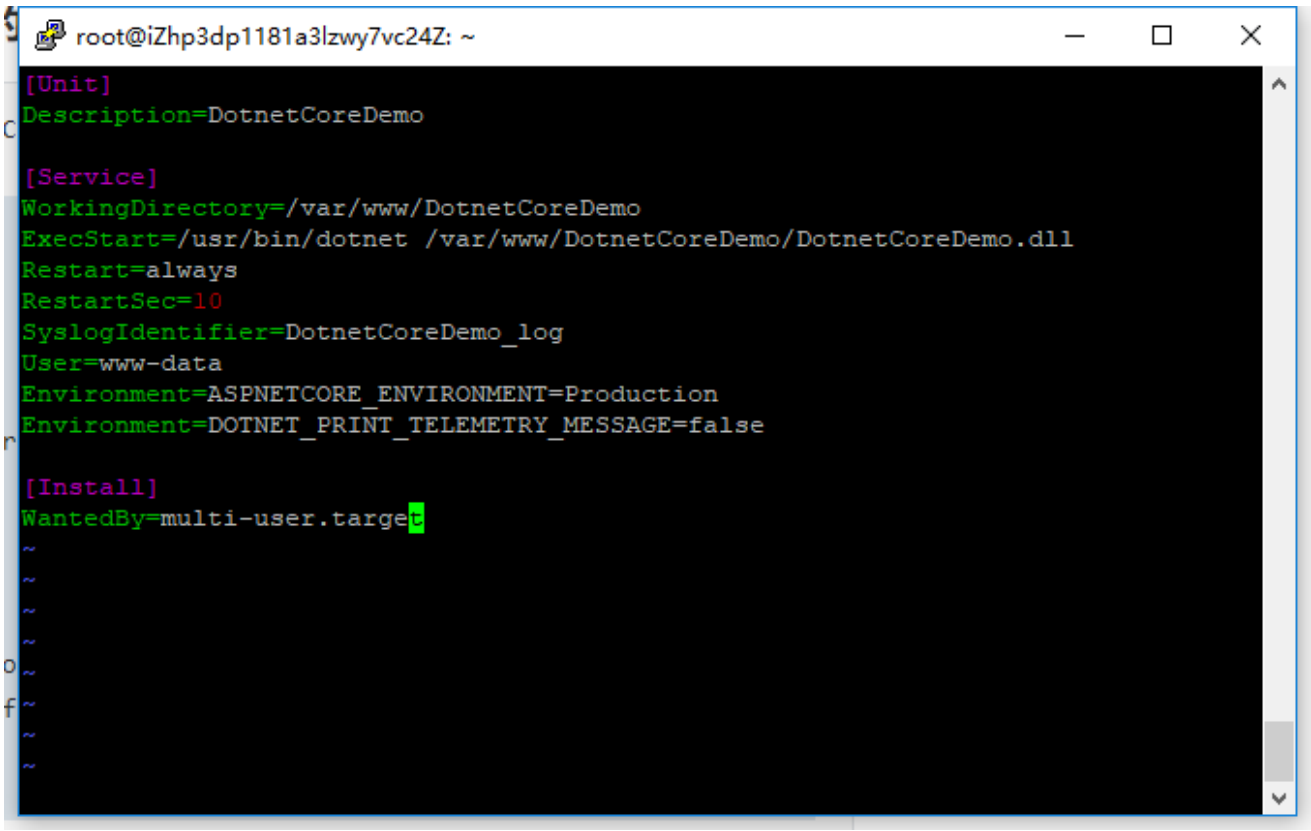
3.创建一个运行DotnetCoreDemo网站的服务并启用

```
sudo vim /etc/systemd/system/kestrel-DotnetCoreDemo.service
内容为
```

```
[Unit]
Description=DotnetCoreDemo

[Service]
WorkingDirectory=/var/www/DotnetCoreDemo
ExecStart=/usr/bin/dotnet /var/www/DotnetCoreDemo/DotnetCoreDemo.dll # 路径根据自己项目来设置
Restart=always
RestartSec=10
SyslogIdentifier=DotnetCoreDemo_log
User=www-data
Environment=ASPNETCORE_ENVIRONMENT=Production
Environment=DOTNET_PRINT_TELEMETRY_MESSAGE=false

[Install]
WantedBy=multi-user.target
```




```
# 启用服务(这里只是启用了,并没有启动)
systemctl enable kestrel-DotnetCoreDemo.service
```

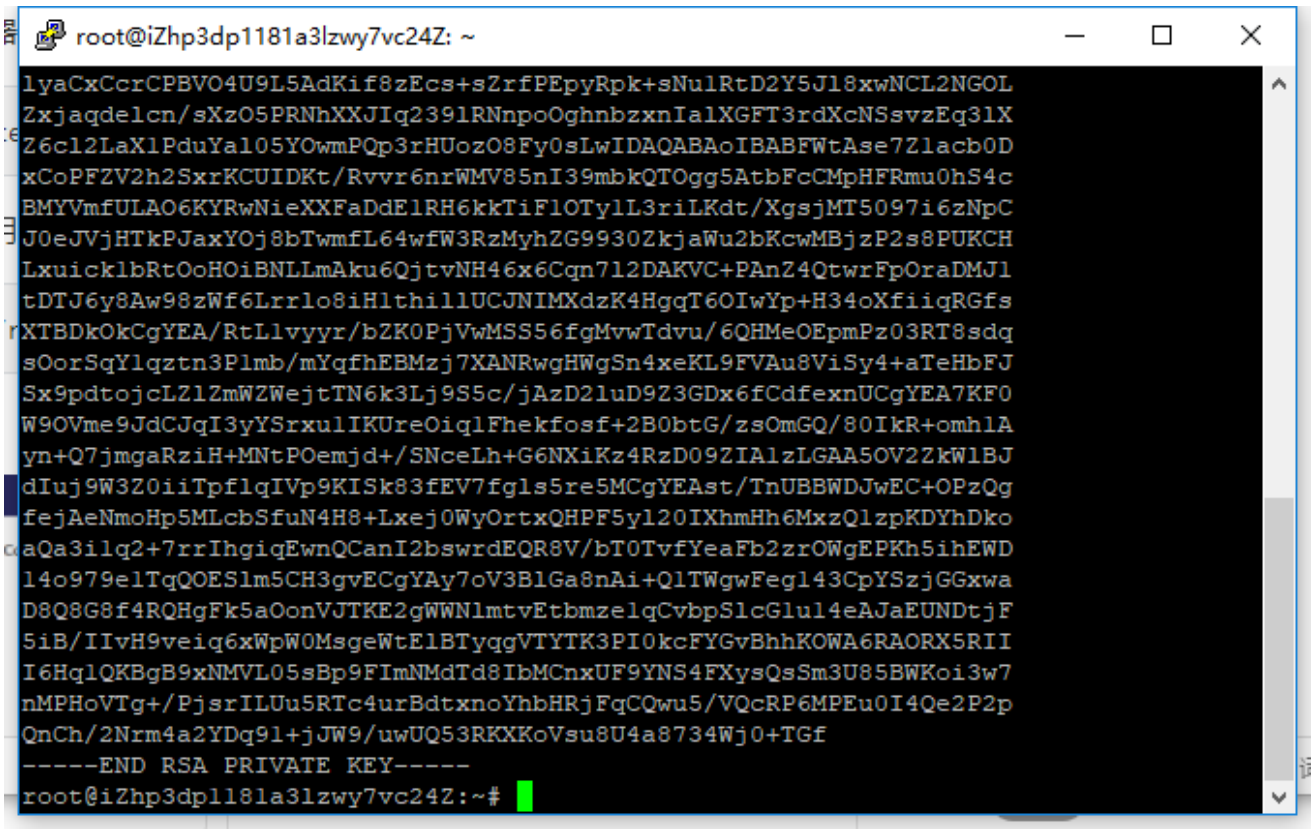
4.配置服务器ssh免密码登陆,在脚本中会使用到

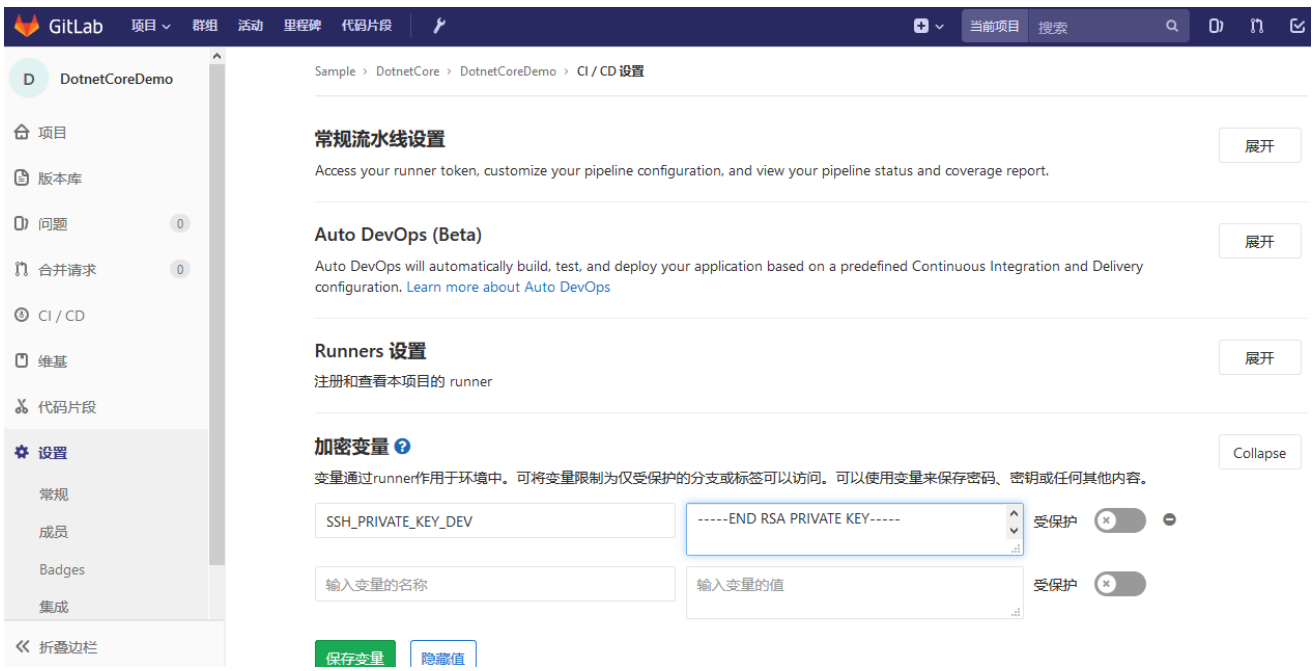
在本地服务器创建RSA无密码密钥,并添加远程授权

```
ssh-keygen -t rsa -P ''
ssh-copy-id root@阿里云部署服务器IP
```

复制私钥添加到项目变量SSH_PRIVATE_KEY_DEV

```
cat /root/.ssh/id_rsa
```



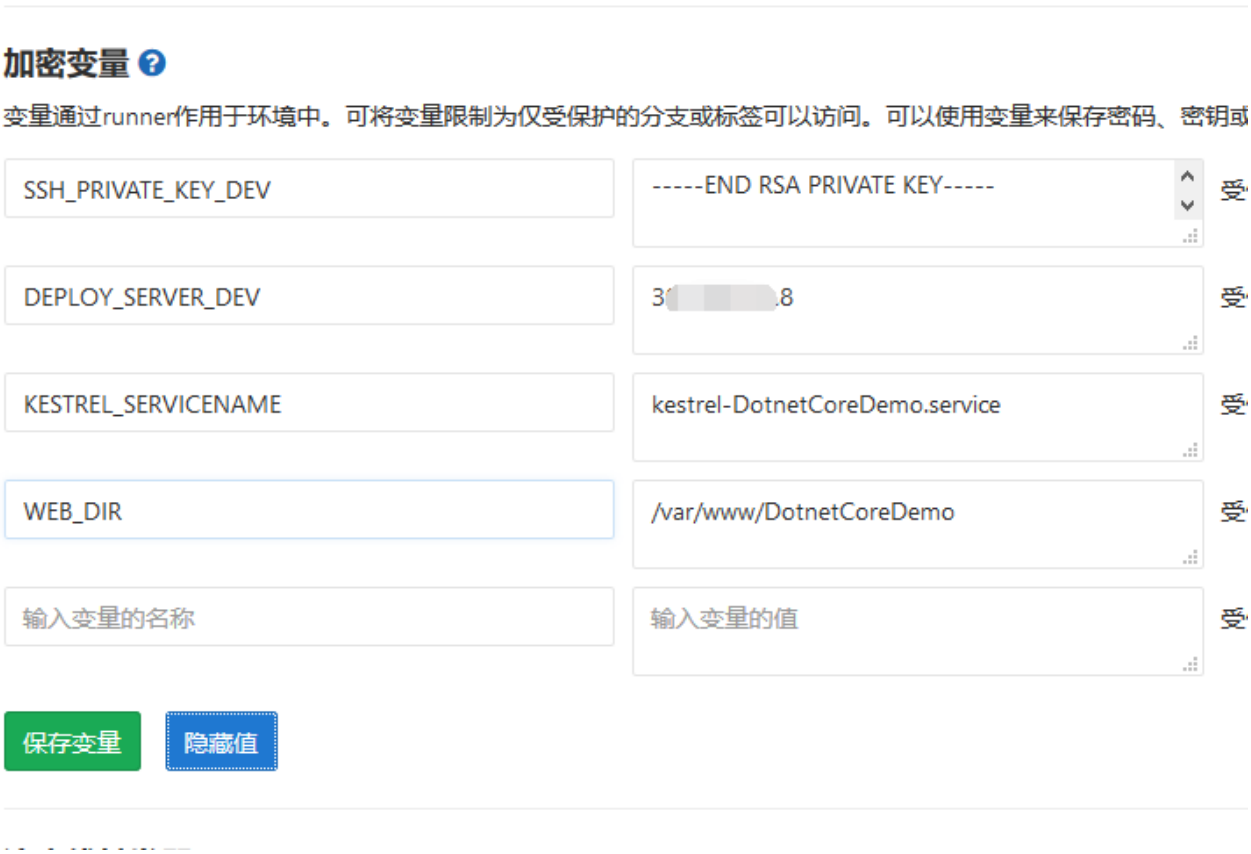


继续在Gitlab添加变量

`DEPLOY_SERVER_DEV`,服务器部署的地址

`KESTREL_SERVICENAME`,服务器部署的dotnet网站的服务名称

`WEB_DIR`,服务器网站部署的路径



修改脚本.gitlab-ci.yml文件

```
# 指定镜像 microsoft/aspnetcore-build暂时没有sdk2.1的编译环境,暂时不需要
# image: microsoft/aspnetcore-build
stages:
  - build
  - deploy_dev

before_script:
  # Install ssh-agent if not already installed, it is required by Docker.
  # (change apt-get to yum if you use a CentOS-based image)
  - 'which ssh-agent || ( apt-get update -y && apt-get install openssh-client -y )'

  # Run ssh-agent (inside the build environment)
  - eval $(ssh-agent -s)

  # Add the SSH key stored in SSH_PRIVATE_KEY variable to the agent store
  # error: https://gitlab.com/gitlab-examples/ssh-private-key/issues/1
  # - echo "$SSH_PRIVATE_KEY_DEV"
  - ssh-add <(echo "$SSH_PRIVATE_KEY_DEV")

  # For Docker builds disable host key checking. Be aware that by adding that
  # you are suspectible to man-in-the-middle attacks.
  # WARNING: Use this only with the Docker executor, if you use it with shell
  # you will overwrite your user's SSH config.
  - mkdir -p ~/.ssh
  - '[[ -f /.dockerenv ]] && echo -e "Host *\n\tStrictHostKeyChecking no\n\n" > ~/.ssh/config'
build_job:
```

```yaml
  stage: build
  only:
    - master
  script:
  - dotnet restore
  - dotnet build
deploy_dev_job:
  stage: deploy_dev
  environment:
    name: development
  only:
    - master
  script:
    # 发布程序
    - dotnet publish -c Release --output /publish
    # 停止服务器网站的服务
    - ssh root@$DEPLOY_SERVER_DEV "systemctl stop $KESTREL_SERVICENAME"
    # scp复制发布文件到服务器
    - scp -r /publish/* root@$DEPLOY_SERVER_DEV:$WEB_DIR
    # 启动服务器的服务
    - ssh root@$DEPLOY_SERVER_DEV "systemctl start $KESTREL_SERVICENAME"
```

状态	作业	流水线	步骤	名称	
已通过	#82 master 2070d05c	#42 by	deploy_dev	deploy_dev_job	00:44 不到 1 分钟前
已通过	#81 master 2070d05c	#42 by	build	build_job	05:38 不到 1 分钟前

```
  Installing Microsoft.Build.Runtime 15.3.409.
  Installing NETStandard.Library 2.0.1.
  Installing Microsoft.NETCore.DotNetHostPolicy 2.0.7.
  Installing Microsoft.Extensions.FileSystemGlobbing 2.0.1.
  Installing Microsoft.Extensions.FileProviders.Abstractions 2.0.1.
  Installing System.Text.Encoding.CodePages 4.0.1.
  Installing System.Reflection.Metadata 1.3.0.
  Installing Microsoft.Build.Framework 15.3.409.
  Installing Microsoft.Build.Utilities.Core 15.3.409.
  Installing Microsoft.Build.Tasks.Core 15.3.409.
  Installing Microsoft.Build 15.3.409.
  Installing Microsoft.NETCore.DotNetHostResolver 2.0.7.
  Installing Microsoft.Extensions.Primitives 2.0.0.
  Installing System.Diagnostics.Process 4.1.0.
  Installing System.Threading.Thread 4.0.0.
  Installing System.Diagnostics.TraceSource 4.0.0.
  Installing System.Collections.NonGeneric 4.0.1.
  Installing System.Runtime.Serialization.Xml 4.1.1.
  Installing System.Resources.Reader 4.0.0.
  Restore completed in 6.58 sec for /builds/Sample/DotnetCore/DotnetCoreDemo/DotnetCoreDemo/DotnetCoreDemo.csproj
.
  DotnetCoreDemo -> /builds/Sample/DotnetCore/DotnetCoreDemo/DotnetCoreDemo/bin/Release/netcoreapp2.1/DotnetCoreD
emo.dll
  DotnetCoreDemo -> /builds/Sample/DotnetCore/DotnetCoreDemo/DotnetCoreDemo/bin/Release/netcoreapp2.1/DotnetCoreD
emo.Views.dll
  DotnetCoreDemo -> /publish/
$ ssh root@$DEPLOY_SERVER_DEV "systemctl stop $KESTREL_SERVICENAME"
Warning: Permanently added '39.104.122.8' (ECDSA) to the list of known hosts.
$ scp -r /publish/* root@$DEPLOY_SERVER_DEV:$WEB_DIR
$ ssh root@$DEPLOY_SERVER_DEV "systemctl start $KESTREL_SERVICENAME"
Job succeeded
```

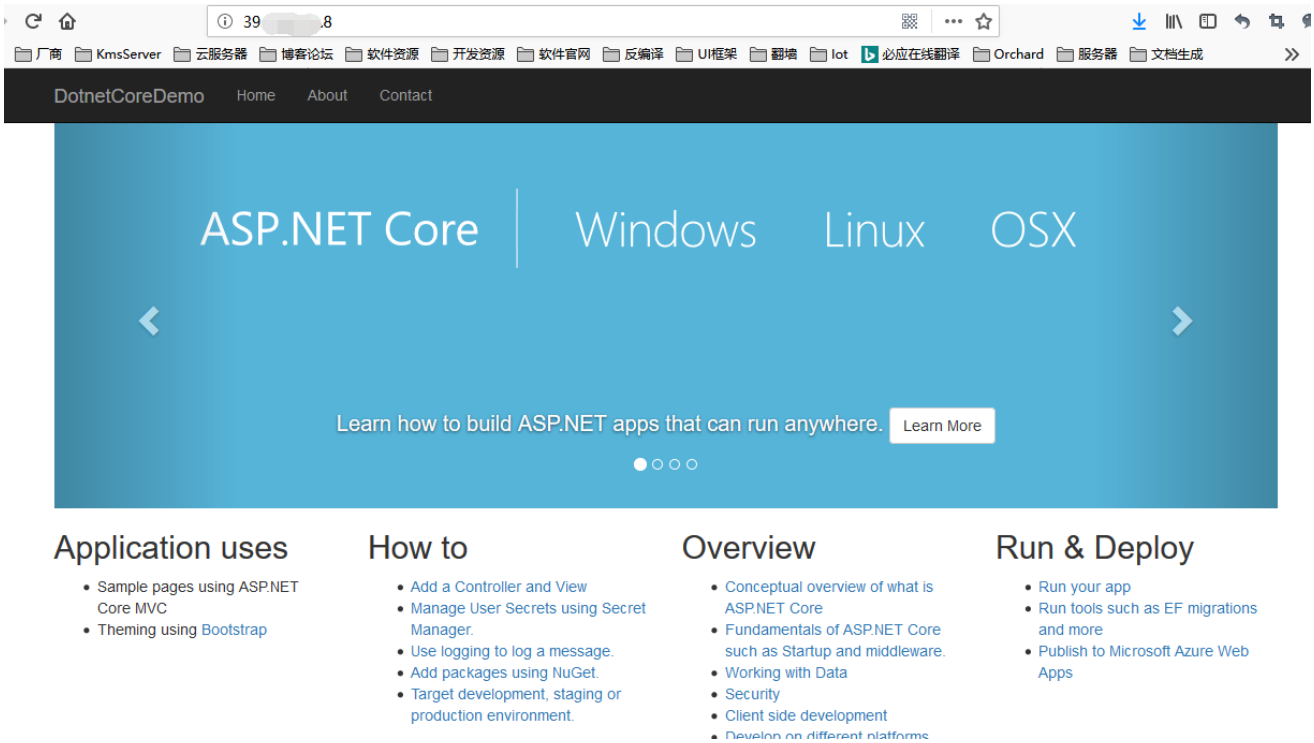
deploy_dev_job

Duration: 44 seconds
Timeout: 1h (from project)
Runner: bf44a4522b2f (#12)

提交 2070d05c
更新 .gitlab-ci.yml

流水线 #42 来自 master
deploy_dev

deploy_dev_job



到这里,自动化部署全部完成.其他方式类似操作.

2018年6月4日 `Devil月哥`