

个人 PC 搭建 repo 服务器

(以维护 NXP 官方 BSP 为例)

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一、服务器端和客户端：

下载 repo 脚本以及相关环境：

```
$ mkdir ~/bin

$ curl https://mirrors.tuna.tsinghua.edu.cn/git/git-repo -o ~/bin/repo

$ chmod +x ~/bin/repo

$ vi ~/.bashrc

$ source ~/.bashrc

$ sudo apt-get install python3
```

在 `~/.bashrc` 最后一行加入：`export PATH=~/bin:$PATH`

由于网络原因，如果使用国内网络，建议将 `~/bin/repo` 中的 URL 替换一下：

```
修改： REPO_URL = 'https://gerrit.googlesource.com/git-repo'

为： REPO_URL = 'https://mirrors.tuna.tsinghua.edu.cn/git/git-repo/'
```

配置 git: (略)

二、客户端（使用 docker 为例）

下载 NXP 的 BSP 工程

```
$ cd

$ mkdir NXP-BSP && cd NXP-BSP

$ repo init -u https://github.com/nxp-imx/imx-manifest -b imx-linux-kirkstone -m imx-5.15.52-2.1.0.xml

$ repo sync
```

```
adv@baf124e5d368:~/NXP-BSP$
adv@baf124e5d368:~/NXP-BSP$
adv@baf124e5d368:~/NXP-BSP$ repo init -u https://github.com/nxp-imx/imx-manifest -b imx-linux-kirkstone -m imx-5.15.52-2.1.0.xml
Downloading Repo source from https://gerrit.googlesource.com/git-repo
remote: Counting objects: 13, done
remote: Finding sources: 100% (1/1)
remote: Total 1 (delta 0), reused 1 (delta 0)
Unpacking objects: 100% (1/1), done.

Your identity is: caokl <caokl@jwele.com.cn>
If you want to change this, please re-run 'repo init' with --config-name

repo has been initialized in /home/adv/NXP-BSP
adv@baf124e5d368:~/NXP-BSP$ repo sync
remote: Enumerating objects: 1055, done.
remote: Counting objects: 100% (1055/1055), done.
remote: Compressing objects: 100% (485/485), done.
remote: Total 1007 (delta 603), reused 904 (delta 512), pack-reused 0
Receiving objects: 100% (1007/1007), 314.63 KiB | 235.00 KiB/s, done.
Resolving deltas: 100% (603/603), completed with 27 local objects.
Fetching: 92% (12/13) meta-virtualization
Fetching: 100% (13/13), done in 5m4.045s
Garbage collecting: 100% (13/13), done in 0.044s
Checking out: 100% (13/13), done in 0.711s
repo sync has finished successfully.
adv@baf124e5d368:~/NXP-BSP$
adv@baf124e5d368:~/NXP-BSP$
```

此过程可能由于网络原因，中途可能会等待很久，甚至报错；多尝试几次。

这时在\$ NXP-BSP 目录下会有一个隐藏的目录.repo。将~/NXP-BSP/.repo/manifests/下的imx-5.15.52-2.1.0.xml 拷贝出来备用,并删除工程中所有的 git 仓库

```
$ cd ~/NXP-BSP/

$ cp ~/NXP-BSP/.repo/manifests/imx-5.15.52-2.1.0.xml ~/NXP-BSP/default.xml

$ find . -name ".git" | xargs rm -rf
```

拉取 manifest 空仓(在此之前需在 repo 服务器端新建一个 manifest.git 仓库,跳到后面看)

```
$ cd ~/NXP-BSP/

$ git clone ckl@10.100.8.99:/home/ckl/workspace/Repo-Sever/manifest.git

$ mv ~/NXP-BSP/default.xml ~/NXP-BSP/manifest/
```

修改(或者自己编写) default.xml

使用 [del version.py](#) 脚本删除一些版本信息

```
$ cd ~/NXP-BSP/manifest/

$ scp del_version.py .

$ chmod +x del_version.py

$ ./del_version.py default.xml

$ vi default.xml
```

将 default.xml 修改为新的服务器地址(根据实际要存放代码的路径), 分支改成 master

```
<remote name="Repo-Sever" fetch="ssh://ckl@10.100.8.99/home/ckl/workspace/Repo-Sever" />

<default revision="master" remote="Repo-Sever" />
```

其他参数根据实际情况修改 (name 是远程仓相对应目录的名字; path 是本地存放的路径) 目录名最好保持一致

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <manifest>
3
4   <remote name="Repo-Sever" fetch="ssh://ckl@10.100.8.99/home/ckl/workspace/Repo-Sever" />
5   <default revision="master" remote="Repo-Sever" />
6
7   <project name="fsl-community-bsp-base" path="sources/base">
8     <linkfile dest="README" src="README"/>
9     <linkfile dest="setup-environment" src="setup-environment"/>
10  </project>
11  <project name="meta-browser" path="sources/meta-browser"/>
12  <project name="meta-clang" path="sources/meta-clang"/>
13  <project name="meta-freescale" path="sources/meta-freescale"/>
14  <project name="meta-freescale-3rdparty" path="sources/meta-freescale-3rdparty"/>
15  <project name="meta-freescale-distro" path="sources/meta-freescale-distro"/>
16
17  <project name="meta-imx" path="sources/meta-imx">
18    <linkfile dest="imx-setup-release.sh" src="tools/imx-setup-release.sh"/>
19    <linkfile dest="README-IMX BSP" src="README"/>
20  </project>
21
22  <project name="meta-nxp-demo-experience" path="sources/meta-nxp-demo-experience"/>
23  <project name="meta-openembedded" path="sources/meta-openembedded"/>
24  <project name="meta-qt6" path="sources/meta-qt6"/>
25  <project name="meta-timesys" path="sources/meta-timesys"/>
26  <project name="meta-virtualization" path="sources/meta-virtualization"/>
27  <project name="poky" path="sources/poky"/>
28 </manifest>
```

修改完成后，将客户端 manifest 中的 default.xml 推送到 repo 服务器端

```
$ cd ~/NXP-BSP/manifest  
  
$ rm del_version.py  
  
$ git add .  
  
$ git commit -am "add default.xml"  
  
$ git push -u origin master:master (推送前确认服务器端 manifest.git 空仓是否建好)
```

建立 BSP 工程各个项目空仓（见 [repo 服务器端](#) 操作）

借助 [push_git_proj.py](#) 上传 BSP 工程到 repo 服务器：

```
$ cd ~/NXP-BSP  
  
$ cp manifest/default.xml .  
  
$ scp push_git_proj.py .  
  
$ vi push_git_proj.py  
  
修改: remote = 'ckl@10.100.8.99:/home/ckl/workspace/Repo-Sever'  
  
$ chmod +x push_git_proj.py  
  
$ ./push_git_proj.py default.xml (推送前确认服务器端 BSP 工程各个项目空仓是否创建好)  
  
多次输入服务器端密码，等待 push 完成即可
```

也可以将客户端的 `~/.ssh/id_rsa.pub` 公钥保存到服务器端的 `~/.ssh/authorized_keys`，这样可以免输密码；但是这样做有安全隐患；客户端可以免输密码直接 ssh 到服务器端

三、repo 服务器端（用户:ckl; IP:10.100.8.99）

repo 服务器目录: PRO_DIR = \$ /home/ckl/workspace/Repo-Sever

1、在服务器端\$ PRO_DIR 新建 manifest.git 并初始化为空仓

```
$ cd ~/workspace/Repo-Sever  
  
$ mkdir manifest.git && cd manifest.git && git init --bare
```

2、建立 BSP 工程各个项目空仓

从客户端拷贝修改过的 default.xml 搭配 [create_project.py](#) 脚本进行工程目录解析:

```
$ cd ~/workspace/Repo-Sever  
  
$ scp default.xml .  
  
$ scp create_project.py .  
  
$ chmod +x create_project.py  
  
$ ./create_project.py default.xml  
  
$ rm create_project.py default.xml
```

```
ckl@ubt20:~/workspace/Repo-Sever$ ls  
fsl-community-bsp-base.git  meta-freescale-3rdparty.git  meta-nxp-demo-experience.git  meta-virtualization.git  
manifest.git               meta-freescale-distro.git    meta-openembedded.git         poky.git  
meta-browser.git          meta-freescale.git           meta-qt6.git  
meta-clang.git            meta-imx.git                 meta-timesys.git
```

四、验证

在客户端新建一个目录:

```
$ cd ~/NXP  
  
$ repo init -u ckl@10.100.8.99:/home/ckl/workspace/Repo-Sever/manifest.git -b master -m default.xml  
  
$ repo sync
```

```
ljl@ljl-H3C-server:/extend_sda/kangle/repo$ repo init -u ckl@10.100.8.99:/home/ckl/workspace/Repo-Sever/manifest.git -b master -m default.xml  
Downloading Repo source from https://gerrit.googlesource.com/git-repo  
  
... A new version of repo (2.29) is available.  
... You should upgrade soon:  
    cp /extend_sda/kangle/repo/.repo/repo/repo /home/ljl/bin/repo  
  
Your identity is: ljl <ljl@jwele.com.cn>  
If you want to change this, please re-run 'repo init' with --config-name  
  
repo has been initialized in /extend_sda/kangle/repo  
ljl@ljl-H3C-server:/extend_sda/kangle/repo$  
ljl@ljl-H3C-server:/extend_sda/kangle/repo$  
ljl@ljl-H3C-server:/extend_sda/kangle/repo$ repo sync  
  
... A new version of repo (2.29) is available.  
... You should upgrade soon:  
    cp /extend_sda/kangle/repo/.repo/repo/repo /home/ljl/bin/repo  
  
Fetching: 100% (13/13), done in 5.027s  
Garbage collecting: 100% (13/13), done in 0.092s  
repo sync has finished successfully.  
ljl@ljl-H3C-server:/extend_sda/kangle/repo$  
ljl@ljl-H3C-server:/extend_sda/kangle/repo$ ls  
imx-setup-release.sh  README  README-IMXBSP  setup-environment  sources  
ljl@ljl-H3C-server:/extend_sda/kangle/repo$
```