ubuntu18.04安装kaldi及srilm

摘要

- kaldi安装
- srilm安装

> 提示
>
> 1. `{your_kaldi}`为你克隆到本地的kaldi目录。
> 2. 如果是用cuda，请提前安装。

1. 克隆kaldi

```
git clone https://github.com/kaldi-asr/kaldi.git
```

2. 安装kaldi

Step 2.1 编译tools

进入tools目录，命令如下：

```
cd {your_kaldi}/tools
```

检查依赖是否满足条件，命令如下：

```
extras/check_dependencies.sh
```

如果有不满足的条件，按照提示安装所需软件即可--可能需要root权限，如本人提示如下问题：

```
extras/check_dependencies.sh: Intel MKL is not installed. Run
extras/install_mkl.sh to install it.
 ... You can also use other matrix algebra libraries. For
information, see:
 ...   http://kaldi-asr.org/doc/matrixwrap.html
```

安装完成后，可再次用`extras/check_dependencies.sh`命令检查是否满足条件。结果如下：

```
extras/check_dependencies.sh: all OK.
```

满足依赖条件后，编译，如果是多线程编译可根据你的机器配置选择线程数。命令如下：

```
# 单线程编译
make
# or多线程编译
make -j 16
```

编译完成提示如下图所示，srilm另在第三小节安装。

```
Warning: IRSTLM is not installed by default anymore. If you need IRSTLM
Warning: use the script extras/install_irstlm.sh
All done OK.
```

Step 2.2 src编译

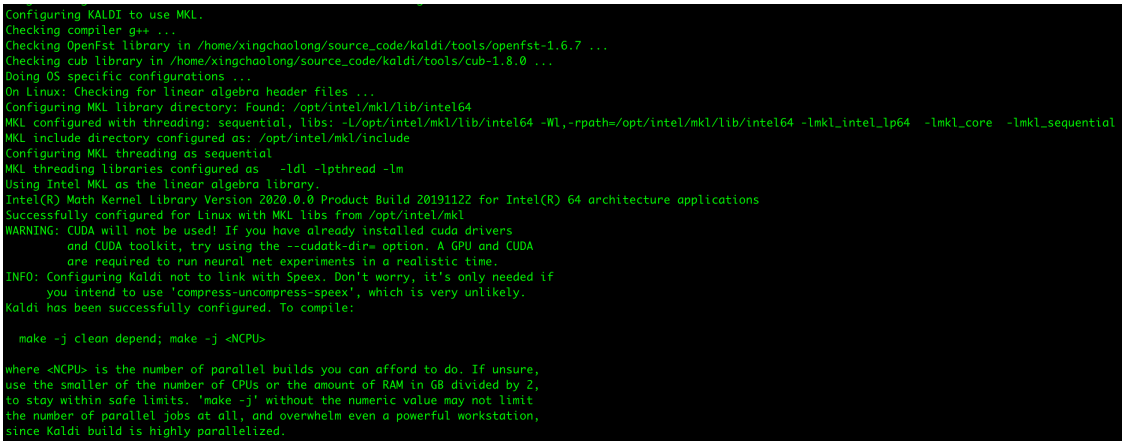
进入src目录，命令如下：

```
cd {your_kaldi}/src
```

运行配置脚本，命令如下：

```
./configure --shared
```

结果如下图所示：

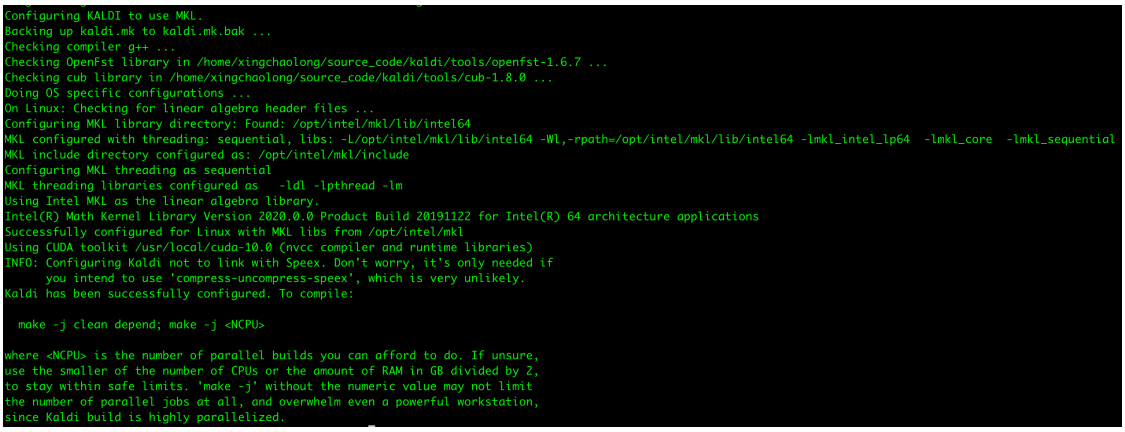


注意这里配置使用的是`MKL`数学库，也可以使用`CUDA`，配置命令如下：

```
./configure --shared --cudatk-dir=/usr/local/cuda-10.0
```

> 此处需要你提前安装`cuda toolkit`，如何安装此处不做赘述。

使用`CUDA`配置结果如下图所示：



编译，命令如下：

```
# 根据你的机器配置选择合适的线程数
make depend -j 16
make -j 16
```

上面两个命令的结果分别如下图所示。

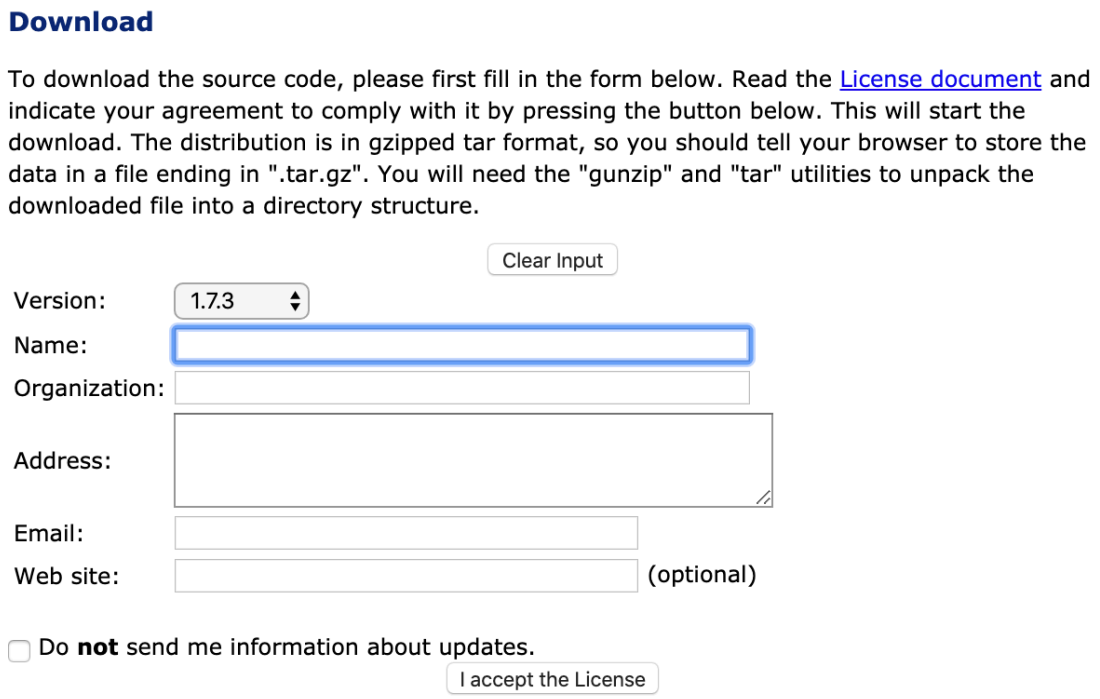
```
make[1]: Leaving directory '/home/xingchaolong/source_code/kaldi/src/featbin'
make[1]: Leaving directory '/home/xingchaolong/source_code/kaldi/src/cudadecoder'
make[1]: Leaving directory '/home/xingchaolong/source_code/kaldi/src/online2bin'
make[1]: Leaving directory '/home/xingchaolong/source_code/kaldi/src/ivectorbin'
make[1]: Leaving directory '/home/xingchaolong/source_code/kaldi/src/chainbin'
make[1]: Leaving directory '/home/xingchaolong/source_code/kaldi/src/nnet2'
make[1]: Leaving directory '/home/xingchaolong/source_code/kaldi/src/gmmbin'
make[1]: Leaving directory '/home/xingchaolong/source_code/kaldi/src/nnet3bin'
make[1]: Leaving directory '/home/xingchaolong/source_code/kaldi/src/latbin'
make[1]: Leaving directory '/home/xingchaolong/source_code/kaldi/src/bin'
make[1]: Leaving directory '/home/xingchaolong/source_code/kaldi/src/nnet2bin'
make[1]: Leaving directory '/home/xingchaolong/source_code/kaldi/src/nnet3'
```

```
make[1]: Leaving directory '/home/xingchaolong/source_code/kaldi/src/latbin'
echo Done
Done
```

3. 安装srilm

Step 3.1 下载srilm

进入下载地址，填写适当的信息并下载`srilm-1.7.3.tar.gz`。需要填写的信息如下图所示。

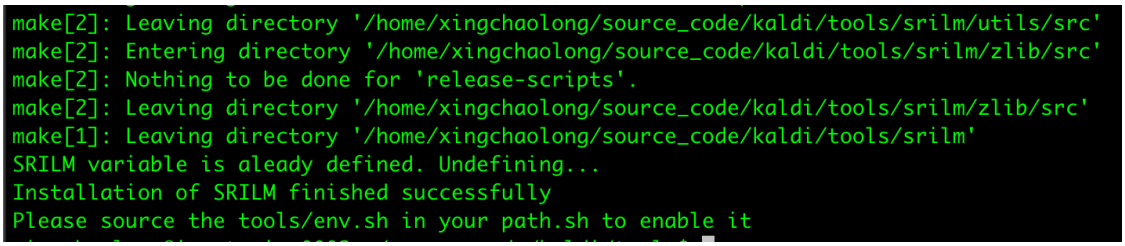


Step 3.2 安装srilm

将`srilm-1.7.3.tar.gz`拷贝或上传到`{your_kaldi}/tools`目录下，重命名文件并安装。命令如下：

```
cd {your_kaldi}/tools
mv srilm-1.7.3.tar.gz srilm.tgz
./install_srilm.sh
```

安装完成如下图所示。



Step 3.3 配置环境变量

在`.bashrc`文件中增加环境变量。命令如下：

```
echo "#srilm" >> ~/.bashrc
cat env.sh >> ~/.bashrc
source ~/.bashrc
```

测试是否安装成功。命令如下：

```
ngram -version
```

测试结果如下图所示。

```
SRILM release 1.7.3 (with third-party contributions)
Built with GCC 5.4.0
and options -g -O3

Program version @(#)$Id: ngram.cc,v 1.141 2019/09/09 23:13:13 stolcke Exp $

Support for compressed files is included.
Using libLBFGS.
Using OpenMP version 201307.

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SRILM also includes open-source software as listed in the
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above notice does not apply.
```