Readme

Step1 环境配置

1.1 Java环境安装

注意我们的项目是需要在Linux系统下运行，所以需要预先安装一个LInux系统

下载tar.gz的压缩包，这里使用官网下载。

进入：
http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html

下载完成后解压到指定文件下

先创建java文件目录，如果已存在就不用创建

```
mkdir -p /usr/local/java
tar -vzxf jdk-8u161-linux-x64.tar.gz -C /usr/local/java/
```

添加环境变量，编辑配置文件

```
 vi /etc/profile
在文件最下方或者指定文件添加
export JAVA_HOME=/usr/local/java/jdk1.8.0_161
export CLASSPATH=$CLASSPATH:$JAVA_HOME/lib/
export PATH=$PATH:$JAVA_HOME/bin
```

保存退出

```
source /etc/profile
```

```
 java -version
可以看到一下信息则表示配置成功
java version “1.8.0_161”
Java™ SE Runtime Environment (build 1.8.0_161-b12)
Java HotSpot™ 64-Bit Server VM (build 25.161-b12, mixed mode)
```

1.2Maven环境配置

官网下载 http://maven.apache.org/download.cgi

下载并解压

```
cd /usr/local/maven/
tar -zxvf apache-maven-3.8.1-bin.tar.gz
```

配置环境变量

```
# 编辑配置文件
vim /etc/profile

# 在末尾追加
export MAVEN_HOME=/usr/local/maven/apache-maven-3.8.1
export PATH=${PATH}:${MAVEN_HOME}/bin

# 使配置文件生效
source /etc/profile
```

测试

```
mvn -v

# 返回
Apache Maven 3.8.1 (05c21c65bdfed0f71a2f2ada8b84da59348c4c5d)
Maven home: /usr/local/maven/apache-maven-3.8.1
Java version: 1.8.0_291, vendor: Oracle Corporation, runtime:
/usr/local/java/jdk1.8.0_291/jre
Default locale: en_US, platform encoding: UTF-8
OS name: "linux", version: "3.10.0-1127.18.2.el7.x86_64", arch: "amd64", family:
"unix"
```

1.3 Docker环境配置

可参考官方的配置教程

1.4 Redis 环境安装

进入官网找下载 https://redis.io/download

```
#选择复制链接
wget http://download.redis.io/releases/redis-5.0.7.tar.gz

#解压

tar -zvxf redis-5.0.7.tar.gz

# 将redis目录放置到 /usr/local/redis目录
mv /root/redis-5.0.7 /usr/local/redis

#编译
cd /usr/local/redis
make

#安装
make PREFIX=/usr/local/redis install

#启动redis
```

```
./bin/redis-server& ./redis.conf
```

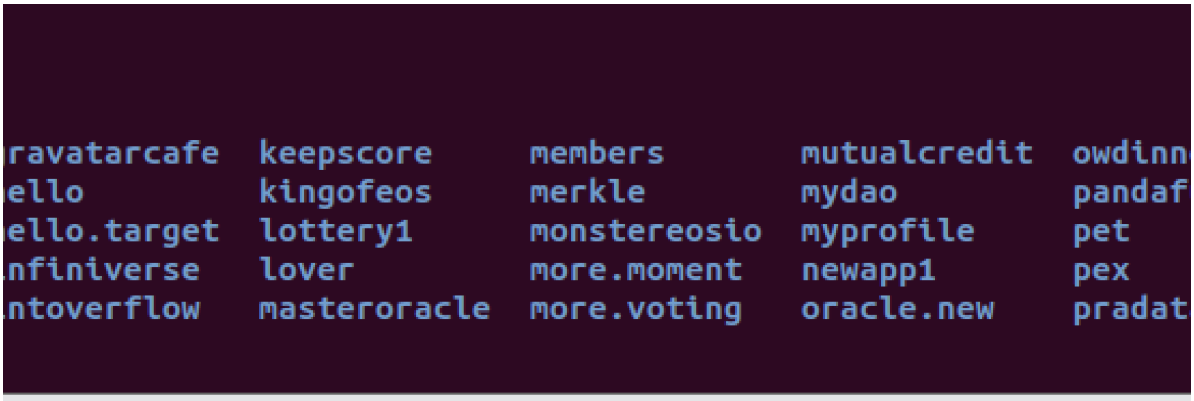
Step2 运行项目

```
git clone https://github.com/HuskiesUESTC/AntFuzzer-WASMOD.git
```

首先在项目中新建config文件夹，并创建test.json的配置文件

```
{
    "fuzzers":[
        {
            "vulnerability":"BlockDependency-MissingAuth",
            "arg_driver":"afl",
            "iteration":100
        },
        {
            "vulnerability":"FakeEOSTransfer",
            "arg_driver":"afl",
            "iteration":100
        },
        {
            "vulnerability":"ForgedNotification",
            "arg_driver":"afl",
            "iteration":100
        },
        {
            "vulnerability":"HackRecipient",
            "arg_driver":"afl",
            "iteration":100
        },
        {
            "vulnerability":"MissingAuth",
            "arg_driver":"afl",
            "iteration":100
        },
        {
            "vulnerability":"Rollback",
            "arg_driver":"afl",
            "iteration":100
        }
    ],
    "output_file":"./result/TestAllAFL.json",
    "smart_contract_dir":"/root/EOSFuzzer/dataset/contracts"
}
```

其中smart_contract_dir是自己合约的文件地址（docker里面的地址）。



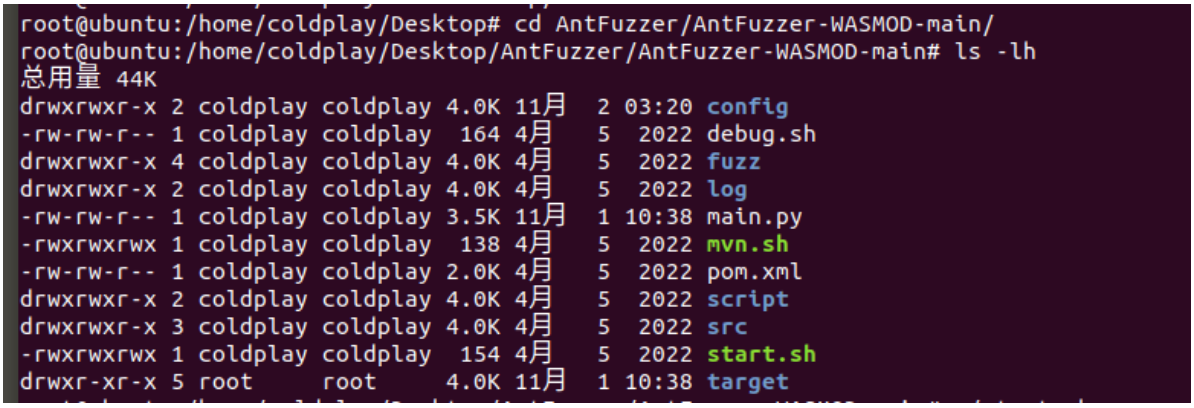
然后将项目整体挂在到Docker上

```
docker run -d -it --name AntFuzzer -v /home/coldplay/Desktop/AntFuzzer/AntFuzzer-WASMOD-main:/root/AntFuzzer ubuntu /bin/bash
```

其中AntFuzzer是项目名称： 前面是项目所在位置 后面是docker下所在位置 最后的是使用的镜像

```
docker exec -it AntFuzzer bash
```

执行上述的命令进入容器中。



然后将Redis启动

运行./start.sh命令启动项目

```
root@57129d66587e:~/AntFuzzer# ./start.sh
[INFO] Scanning for projects...
[INFO]
[INFO] ------------------------< edu.uestc:AntFuzzer >-------------------------
[INFO] Building AntFuzzer 1.0-SNAPSHOT
[INFO] --------------------------------[ jar ]---------------------------------
[INFO]
[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ AntFuzzer ---
[INFO] Deleting /root/AntFuzzer/target
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  0.472 s
[INFO] Finished at: 2023-11-02T14:38:09Z
[INFO] ------------------------------------------------------------------------
[INFO] Scanning for projects...
[INFO]
[INFO] ------------------------< edu.uestc:AntFuzzer >-------------------------
[INFO] Building AntFuzzer 1.0-SNAPSHOT
[INFO] --------------------------------[ jar ]---------------------------------
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ AntFuzzer ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] Copying 47 resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ AntFuzzer ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 115 source files to /root/AntFuzzer/target/classes
[WARNING] /root/AntFuzzer/src/main/java/edu/uestc/antfuzzer/framework/core/BeanFactory.java: Some input files use unchecked or unsafe operations.
[WARNING] /root/AntFuzzer/src/main/java/edu/uestc/antfuzzer/framework/core/BeanFactory.java: Recompile with -Xlint:unchecked for details.
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
```

项目会首先通过maven进行jar包的打包build过程等等，然后开始通过红箭头标记的命令进入主函数，并且传递配置文件的参数

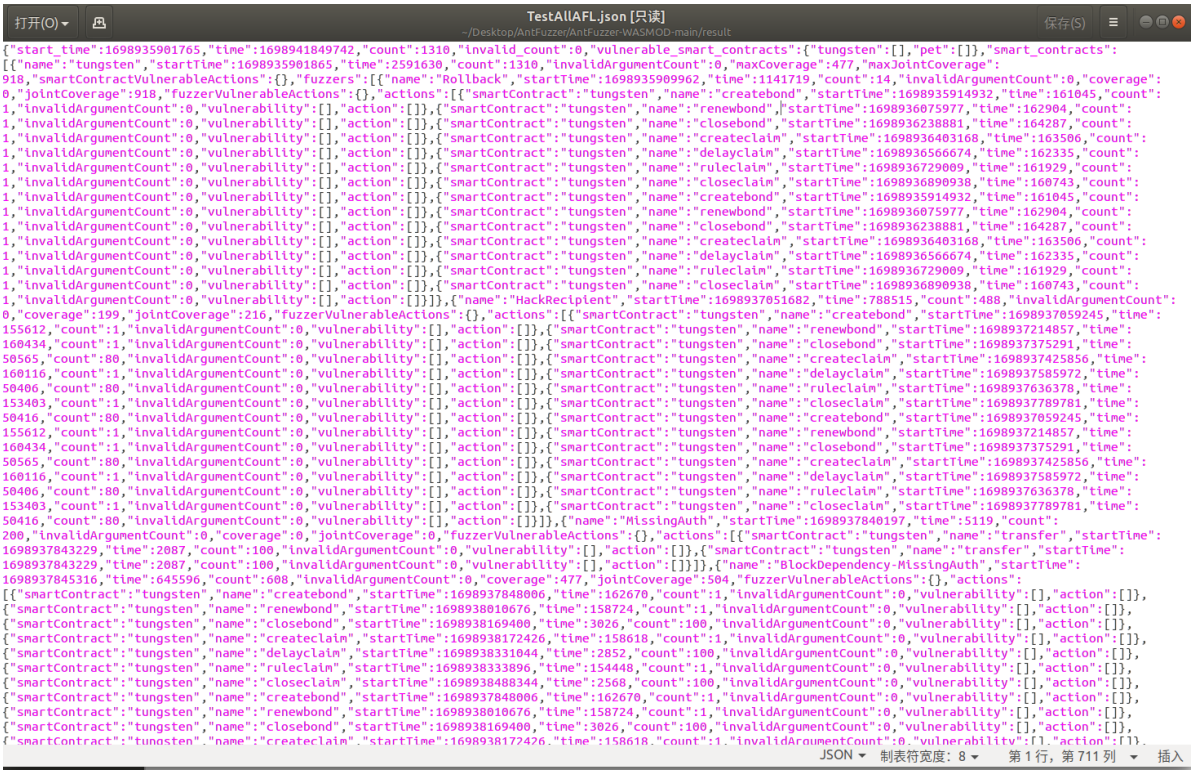
```
#!/usr/bin/env bash
mvn clean
mvn compile
mvn -e exec:java -Dexec.mainClass="edu.uestc.antfuzzer.Main" -Dexec.args="-fuzzingConfigFile ./config/test.json"
```

运行过程如下：

```
cleos create account eosio eosio.token EOS6MRyAjQq8ud7hVNYcfnVPJqcVpscN5So8BhtHuGYqET5GDW5CV
#         eosio <= eosio::newaccount            {"creator":"eosio","name":"eosio.token","owner":{"threshold":1,"keys":[{"key":"EOS6MRyAjQq8ud7hVNYcf
...
executed transaction: c847868a7dc4c5e131d74f5d9d63941a8472e2de9bc719c7fcd9c2ea128fdbe6  200 bytes  290 uswarn  2023-11-02T14:38:24.426 thread-0  mai
n.cpp:487                  print_result         ] warning: transaction executed locally, but may not be confirmed by the network yet
cleos set contract eosio.token /root/eos/build/contracts/eosio.token/ -p eosio.token@active
cleos push action eosio.token create '["eosio","1000000000000.0000 EOS"]' -p eosio.token@active -f 2>&1
executed transaction: 87b9cca322d20be1c43ec14fda8c4209c318597c6e8839c78f0ac40d5972e621  144 bytes  2652 uswarn  2023-11-02T14:38:24.527 thread-0  ma
in.cpp:487                 print_result         ] warning: transaction executed locally, but may not be confirmed by the network yet#    eosio.null
 <= eosio.null::nonce            "52b915572c090600"#   eosio.token <= eosio.token::create          {"issuer":"eosio","maximum_supply":"1000000000000
.0000 EOS"}
cleos create account eosio testeosfrom EOS6MRyAjQq8ud7hVNYcfnVPJqcVpscN5So8BhtHuGYqET5GDW5CV
#         eosio <= eosio::newaccount            {"creator":"eosio","name":"testeosfrom","owner":{"threshold":1,"keys":[{"key":"EOS6MRyAjQq8ud7hVNYcf
...
executed transaction: c5c53de1e49b5fb5f68178b24917c8d6138636b8780b08e93dc7a2d42e923fe8  200 bytes  249 uswarn  2023-11-02T14:38:24.555 thread-0  mai
n.cpp:487                  print_result         ] warning: transaction executed locally, but may not be confirmed by the network yet
cleos push action eosio.token issue '["testeosfrom","1000000000.0000 EOS","FUZZER"]' -p eosio@active -f 2>&1
executed transaction: ff2dee7538b124b6f6137838536cfed85f55c7353a20105acb6e9c2402d4c29e  152 bytes  5474 uswarn  2023-11-02T14:38:24.591 thread-0  ma
in.cpp:487                 print_result         ] warning: transaction executed locally, but may not be confirmed by the network yet#    eosio.null
 <= eosio.null::nonce            "11b616572c090600"#   eosio.token <= eosio.token::issue          {"to":"testeosfrom","quantity":"1000000000.0000 E
OS","memo":"FUZZER"}#   eosio.token <= eosio.token::transfer        {"from":"eosio","to":"testeosfrom","quantity":"1000000000.0000 EOS","memo":"FUZZ
ER"}#         eosio <= eosio.token::transfer        {"from":"eosio","to":"testeosfrom","quantity":"1000000000.0000 EOS","memo":"FUZZER"}#   testeosf
rom <= eosio.token::transfer        {"from":"eosio","to":"testeosfrom","quantity":"1000000000.0000 EOS","memo":"FUZZER"}
cleos create account eosio tungsten EOS6MRyAjQq8ud7hVNYcfnVPJqcVpscN5So8BhtHuGYqET5GDW5CV
#         eosio <= eosio::newaccount            {"creator":"eosio","name":"tungsten","owner":{"threshold":1,"keys":[{"key":"EOS6MRyAjQq8ud7hVNYcfnVP
...
executed transaction: c889930debfc96a8e66de2ae15391403326629c229e7b32ea8cfa79dda32e11d  200 bytes  512 uswarn  2023-11-02T14:38:24.621 thread-0  mai
n.cpp:487                  print_result         ] warning: transaction executed locally, but may not be confirmed by the network yet
cleos push action eosio.token issue '["tungsten","1000000000.0000 EOS","FUZZER"]' -p eosio@active -f 2>&1
executed transaction: 4d2d46236e8820b252ab3ea0c5971a39b586f0bae304afa1b65dcc9975858595  152 bytes  10486 uswarn  2023-11-02T14:38:24.658 thread-0  m
ain.cpp:487                print_result         ] warning: transaction executed locally, but may not be confirmed by the network yet#    eosio.nul
l <= eosio.null::nonce            "9aa117572c090600"#   eosio.token <= eosio.token::issue          {"to":"tungsten","quantity":"1000000000.0000 EOS
","memo":"FUZZER"}#   eosio.token <= eosio.token::transfer        {"from":"eosio","to":"tungsten","quantity":"1000000000.0000 EOS","memo":"FUZZER"}#
        eosio <= eosio.token::transfer        {"from":"eosio","to":"tungsten","quantity":"1000000000.0000 EOS","memo":"FUZZER"}#      tungsten <= e
osio.token::transfer        {"from":"eosio","to":"tungsten","quantity":"1000000000.0000 EOS","memo":"FUZZER"}
```

最终会得到结果如图所示

包括name,starttime,time,count,invalidArgumentCount,coverage等等结果


打开(O)
TestAllAFL.json [只读]
~/Desktop/AntFuzzer/AntFuzzer-WASMOD-main/result
保存(S)
JSON
制表符宽度：8
第 1 行，第 711 列
插入