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[illegible]

```
g@dbfcs-51a: /home/dblab/opengauss-compile/opengauss-server-v3.0.0$ ./bin/kmshim -p /home/dblab/opengauss-compile/opengauss-server-v3.0.0/dgst/lib/postgresql/extension/'
/home/dblab/opengauss-compile/opengauss-server-v3.0.0/dgst/share/postgresql/extension/'
./bin/kmshim -p /home/dblab/opengauss-compile/opengauss-server-v3.0.0/dgst/share/postgresql/extension/'
./bin/kmshim -p /home/dblab/opengauss-compile/opengauss-server-v3.0.0/dgst/share/postgresql/extension/'
./bin/sh -c './config/install-sh -e -o 755 hstore.so' /home/dblab/opengauss-compile/opengauss-server-v3.0.0/dgst/lib/postgresql/hstore.so
./bin/sh -c './configure/install-sh -e -o 644 /hstore.control' /home/dblab/opengauss-compile/opengauss-server-v3.0.0/dgst/share/postgresql/extension/'
./bin/sh -c './configure/install-sh -e -o 644 /hstore-1.1.sql /hstore-1.0-1.1.sql' /home/unpackaged-1.0.sql' /home/dblab/opengauss-compile/opengauss-server-v3.0.0/dgst/share/postgresql/extension/'
Install data dictionary /home/dblab/opengauss-compile/opengauss-server-v3.0.0/dgst/hstore/
opengauss installation complete
Install data dictionary /home/dblab/opengauss-compile/opengauss-server-v3.0.0/gis/
This files belonging to this database system will be owned by user "dblab".
This user must also own the server process.

The database cluster will be initialized with locale "en_US.UTF-8".
The default text search configuration will be set to "english".

creating directory /home/dblab/opengauss-compile/opengauss-server-v3.0.0/dgst/data ... ok
creating subdirectories ... ok
selecting default max_connections ... 100
selecting default shared_buffers ... 32MB
creating configuration files ... ok
fixing permissions on existing data ... ok
initiating the unix socket...
/usr/bin/mkfs -t ext4 /dev/nvme0n1p1 successfully.
Creating template database db /home/dblab/opengauss-compile/opengauss-server-v3.0.0/dgst/data/base/1 ... The core dump path is an invalid directory
2024-03-25 13:13:13.675 [unknown] [unknown] localhost 20146901413420 0(10180) [BACKEND WARNING: machaddr is f40222105317121b, sysidentifier is 4195761642/104919890, randomid is 1352222040]
initializing pg_authsin ... ok
setting saslauthd ... ok
initializing dependencies ... ok
loading PL/pgSQL server-side language ... ok
creating system views ... ok
creating performance view ... ok
loading system objects' descriptions ... ok
creating collations ... ok
creating conversions ... ok
creating dictionaries ... ok
creating privileges on built-in objects ... ok
installing global configure for bucketmap length ... ok
creating information schema ... ok
loading foreign-data wrapper for dlibs access ... ok
loading foreign-data wrapper for hdfs access ... ok
loading foreign-data wrapper for log access ... ok
loading native execution ... ok
loading security plugin ... ok
updating system tables ... ok
creating sequence catalog ... ok
vacuuming database template1 ... ok
copying template1 to template0 ... ok
copying template1 to postgres ... ok
creating database template0 ... ok
freezing database template1 ... ok
freezing database postgres ... ok

WARNING: enabling "trust" authentication for local connections
You can change this by editing pg_hba.conf or using the option "-A, or
-A=auth-local and -auth-host, the next time you run gs_initdb.

Success. You can now start the database server of single node using:

    gaussdb -D /home/dblab/opengauss-compile/opengauss-server-v3.0.0/dgst/data --single-node

gsql_start -D /home/dblab/opengauss-compile/opengauss-server-v3.0.0/dgst/data -l single-node -l logfile

dbfcs51a opengauss-server-v3.0.0
```

2. 完成 openGauss 数据库初始化，并启动数据库服务器。

[illegible]

3. 完成 gsql 客户端连接数据库服务器并成功执行“SELECT version();”语句。

```

root@dbae6c54fa:~/openpgm-compile/openpgm-server-v3.0.0#
2024-03-25 18:50:34.169 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: [Alarm Module]Host IP: 127.0.0.1
2024-03-25 18:50:34.169 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: [Alarm Module]Get ENV GE_CLUSTER_NAME failed!
2024-03-25 18:50:34.169 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: [Alarm Module]Invalid data in AlarmInfo file! Read alarm English name failed! line: 57
2024-03-25 18:50:34.374 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) INFO: loaded library "security_plugin"
2024-03-25 18:50:34.374 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) WARNING: could not create any UA TCP/IP sockets
2024-03-25 18:50:34.374 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) WARNING: could not create any HA TCP/IP sockets
2024-03-25 18:50:34.374 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) WARNING: No register IP is configured for listen_addresses_GDC.
2024-03-25 18:50:34.377 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: InitName moduleName: 1 name_datastruct_mode: none inheritThreadPool: 0
2024-03-25 18:50:34.377 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: reserved memory for backend threads is: 250 MB
2024-03-25 18:50:34.377 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: reserved memory for WAL buffers is: 128 MB
2024-03-25 18:50:34.377 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: set max backend reserve memory is: 948 MB, max dynamic memory is: 11027 MB
2024-03-25 18:50:34.377 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: shared memory 400 Mbytes, memory context 11375 Mbytes, max process memory 12288 Mbytes
2024-03-25 18:50:34.420 [unknown] [unknown] localhost:281464607194986 0 (CHECKPOINT) LOG: set data cache size (462653184)
2024-03-25 18:50:34.420 [unknown] [unknown] localhost:281464607194986 0 (CHECKPOINT) LOG: set metadata cache size (198177328)
2024-03-25 18:50:34.424 [unknown] [unknown] localhost:281464607194986 0 (CHECKPOINT) LOG: Segment-page constants: DP_HAP_SIZE: 8194, DP_HAP_BIT_CNT: 65248, DP_HAP_GROUP_EXENTS: 4178572, IPLOC_SIZE: 8168, EXTENTS_PER_IPLOC: 1
2024-03-25 18:50:34.424 [unknown] [unknown] localhost:281464607194986 0 (CHECKPOINT) LOG: BackupPageHeader(Relation): 208, BacklogBlockNumber: 25, BacklogBlockSize: 81
2024-03-25 18:50:34.427 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: gaussdb_fsync file "/home/dblab/openpgm-compile/openpgm-server-v3.0.0/test/data/gaussdb.stateme.txt" success
2024-03-25 18:50:34.427 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: create gaussdb state file success, do state(STARTING_STATE), server mode(Normal), connection index(1)
2024-03-25 18:50:34.436 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: max_fsm_sds = 976, unabl_sds = 1000, already_open = 14
2024-03-25 18:50:34.436 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: The core dump path is an invalid directory.
2024-03-25 18:50:34.436 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: user configure file is not found, it will be created.
2024-03-25 18:50:34.436 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: the configure file /home/dblab/openpgm-compile/openpgm-server-v3.0.0/etc/dev/pgconfig_dblab.cfg doesn't exist or the size of configure file is greater than 100MB, please create it manually.
2024-03-25 18:50:34.438 [unknown] [unknown] localhost:281464607194986 0 (BACKGROUND) LOG: Failed to parse config conf file.
2024-03-25 18:50:34.439 [unknown] [unknown] localhost:281464607194986 0 (EXECUTOR) WARNING: Failed to obtain environment value GAUSSLOG!
2024-03-25 18:50:34.439 [unknown] [unknown] localhost:281464607194986 0 (EXECUTOR) DETAIL: N/A
2024-03-25 18:50:34.439 [unknown] [unknown] localhost:281464607194986 0 (EXECUTOR) CAUSE: Incorrect environment value.
2024-03-25 18:50:34.439 [unknown] [unknown] localhost:281464607194986 0 (EXECUTOR) ACTION: Please refer to backend log for more details.
2024-03-25 18:50:34.439 [unknown] [unknown] localhost:281464607194986 0 (EXECUTOR) WARNING: Failed to obtain environment value PGMSQLLOG!
2024-03-25 18:50:34.439 [unknown] [unknown] localhost:281464607194986 0 (EXECUTOR) DETAIL: N/A
2024-03-25 18:50:34.439 [unknown] [unknown] localhost:281464607194986 0 (EXECUTOR) CAUSE: Incorrect environment value.
2024-03-25 18:50:34.439 [unknown] [unknown] localhost:281464607194986 0 (EXECUTOR) ACTION: Please refer to backend log for more details.
2024-03-25 18:50:35.086 [unknown] [ga_ctl]: dnm
2024-03-25 18:50:35.086 [unknown] [ga_ctl]: server started (/home/dblab/openpgm-compile/openpgm-server-v3.0.0/test/data)
dblab@bc54fa:~/openpgm-compile/openpgm-server-v3.0.0$ ga_ctl status > DGAUSSLOG/home/
2024-03-25 18:51:06.093 [unknown] [ga_ctl]: ga_ctl status,detail is /home/dblab/openpgm-compile/openpgm-server-v3.0.0/test/data
ga_ctl service is running (PID 100939)
/home/dblab/openpgm-compile/openpgm-server-v3.0.0/test/run/gaussdb "-D /home/dblab/openpgm-compile/openpgm-server-v3.0.0/test/data"
dblab@bc54fa:~/openpgm-compile/openpgm-server-v3.0.0$ ga_ctl posture -t
info (openpgm 3.0.0 build ) compiled at 2024-03-25 18:17:23 commit 0 last nc debug on
INFO
INFO Connection (ifl connection is recommended when requiring high-security)
Type "help" for help.
openpgm> ALTER ROLE 'dblab' PASSWORD '123';
ERROR: password must contain at least 8 characters.
openpgm> ALTER ROLE 'dblab' PASSWORD '12345678';
ERROR: password must contain at least 8 digits.
openpgm> ALTER ROLE 'dblab' PASSWORD 'gauss@123';
ALTER ROLE
openpgm> ALTER ROLE 'dblab' PASSWORD 'dblab123';
ALTER ROLE
openpgm> SELECT VERSION();
          version
-----
openpgm 3.0.0 build ) compiled at 2024-03-25 18:17:23 commit 0 last nc debug on gcc44-unknown-linux-gnu, compiled by g++ (GCC) 7.3.0, 64-bit
in 650.
root@dbae6c54fa:~/openpgm-compile/openpgm-server-v3.0.0#

```

实验讨论与总结

1. 编译 Open Gauss-server 时出现各种各样的软件包缺失
检查环境变量/.bashrc 中的 BINARYLIBS 指向哪里, 是否指向下载的第三方包的解压目录
2. 下载源代码时速度很慢
可以调节弹性网卡的带宽
3. Config 配置出现报错
具体报错忘了截图了, 但是文档中的命令多了个换行, 多了个空格 (lib/)

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```

bash: make: command not found
make: *** No rule to make target 'catalog.o'.  Stop.

```

The screenshot shows a terminal window with the following content:

```

bash: make: command not found
make: *** No rule to make target 'catalog.o'.  Stop.

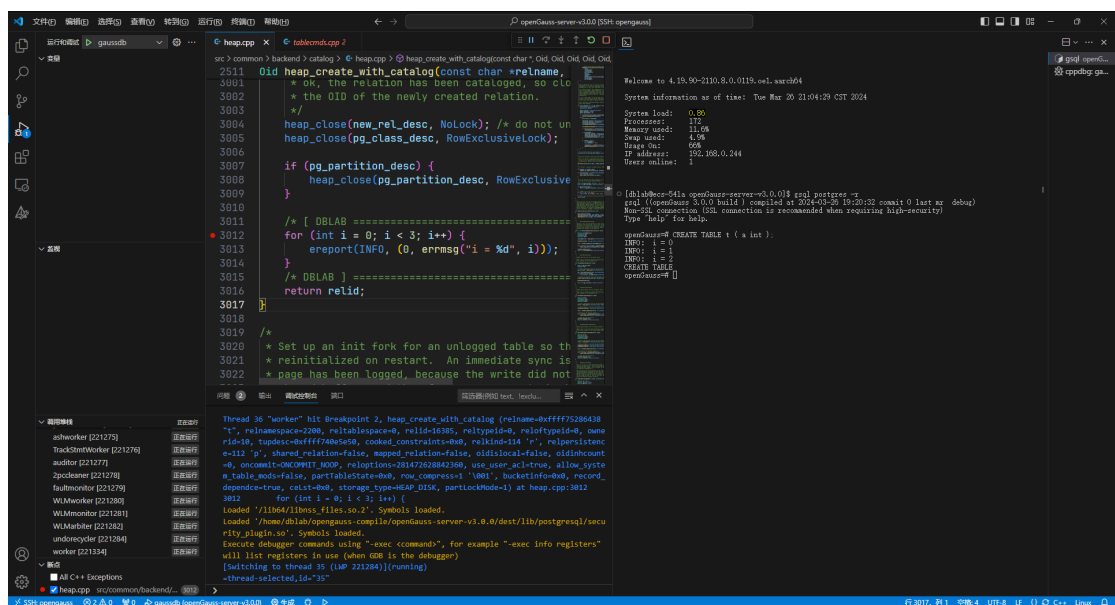
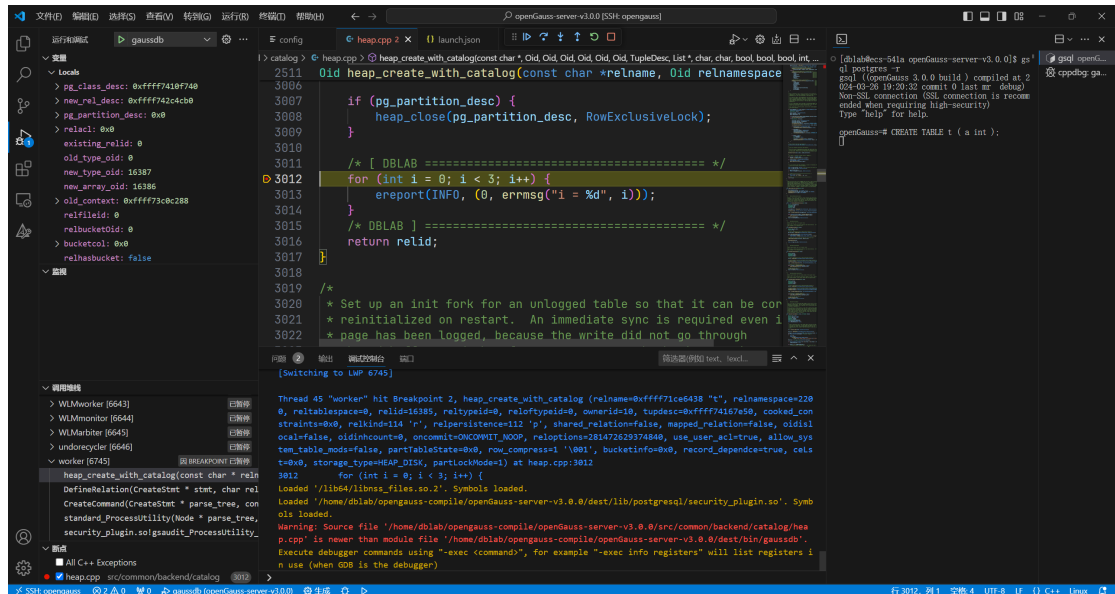
```

The terminal output indicates that the 'make' command is not found, and the compilation process is stopped. The error message is repeated twice.

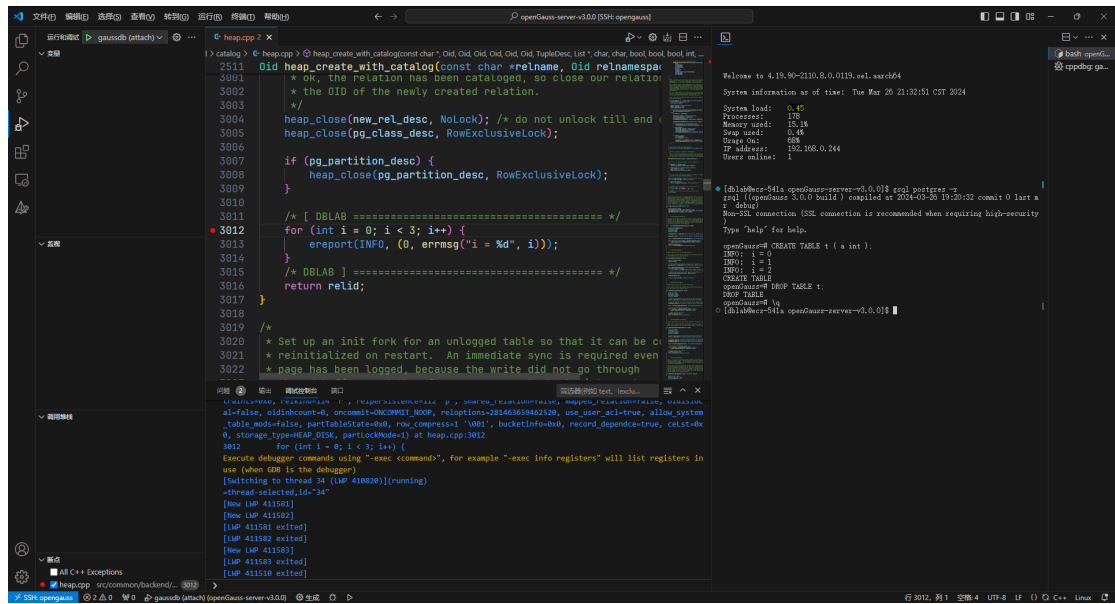
```
root@ecs-541a:/home/dblab/opengauss-compile/openGauss-server-v3.0.0
```

```
1 /opengauss-compile/binarylibs-v3.0.0/dependency/openeuler_aarch64/libobs/comm/li
2 b -L/home/dblab/opengauss-compile/binarylibs-v3.0.0/dependency/openeuler_aarch64
3 /kerberos/comm/lib -L../src/gstrace/common -L/home/dblab/opengauss-compile/b
4 inarylibs-v3.0.0/dependency/openeuler_aarch64/numactl/comm/lib -L/home/dblab/ope
5 ngauss-compile/binarylibs-v3.0.0/dependency/openeuler_aarch64/libcurl/comm/lib -
6 L/home/dblab/opengauss-compile/binarylibs-v3.0.0/dependency/openeuler_aarch64/je
7 malloc/debug/lib
8 /usr/bin/mkdir -p '/home/dblab/opengauss-compile/openGauss-server-v3.0.0/dest/li
9 b/postgresql'
10 /usr/bin/mkdir -p '/home/dblab/opengauss-compile/openGauss-server-v3.0.0/dest/sh
11 are/postgresql/extension'
12 /usr/bin/mkdir -p '/home/dblab/opengauss-compile/openGauss-server-v3.0.0/dest/sh
13 are/postgresql/extension'
14 /bin/sh ../../config/install-sh -c -m 755 hstore.so '/home/dblab/opengauss-comp
15 ile/openGauss-server-v3.0.0/dest/lib/postgresql/hstore.so'
16 /bin/sh ../../config/install-sh -c -m 644 ./hstore.control '/home/dblab/opengaus
17 s-compile/openGauss-server-v3.0.0/dest/share/postgresql/extension/'
18 /bin/sh ../../config/install-sh -c -m 644 ./hstore--1.1.sql ./hstore--1.0--1.1.s
19 ql ./hstore--unpacked--1.0.sql '/home/dblab/opengauss-compile/openGauss-serve
20 r-v3.0.0/dest/share/postgresql/extension/'
21 make[1]: Leaving directory '/home/dblab/opengauss-compile/openGauss-server-v3.0.
22 0/contrib/hstore'
23 openGauss installation complete.
24 [root@ecs-541a openGauss-server-v3.0.0]#
```

2. 完成实验步骤 6.4.2 和 6.4.3, 进行 openGauss 调试环境配置与单步调试



3. 完成实验步骤 6.4.2, 以 attach 方式进行 openGauss 调试



实验讨论与总结

1. 启动 gdb 调试后出现报错

```
/home/dblab/opengauss-compile/openGauss-server-v3.0.0/dest/bin/gaussdb: error while loading shared libraries: libSDKOBS.so: cannot open shared object file: No such file or directory
```

解决：locate 找了一下，将相应位置加入环境变量中

在 ldconfig 加入目录

将源码总目录所有权给 dblab，后重新启动调试后出现新的报错，如下：

2. 报错如下

```
0 LOG:  [Alarm Module]can not read GAUSS_WARNING_TYPE env.
0 LOG:  [Alarm Module]Host Name: ecs-541a
0 LOG:  [Alarm Module]Host IP: 127.0.0.1
0 LOG:  [Alarm Module]Get ENV GS_CLUSTER_NAME failed!
0 LOG:  [Alarm Module]Invalid data in AlarmItem file! Read alarm English name failed! line: 57
0 WARNING:  failed to open feature control file, please check whether it exists: FileName=gaussdb.version, Errno=2, Errmessage=No such file or directory.
0 WARNING:  failed to parse feature control file: gaussdb.version.
0 WARNING:  Failed to load the product control file, so gaussdb cannot distinguish product version.
The core dump path is an invalid directory
gaussdb cannot access the server configuration file "/home/dblab/opengauss-compile/openGauss-server-v3.0.0/dest/data/postgresql.conf": No such file or directory
[dblab@ecs-541a dest]$
```

解决：重新初始化 opengauss，若提示 data 存在的话就 cp data data1

(出现情况太多，忘记记录了= =)