

Предмет	Управление и автоматизация баз данных
Курс	4
Семестр	1
Работа	Lab10 snmp
Дата	23.10.2021
Группа	484
Фамилия	Серебряков
Имя	Максим
Отчество	Андреевич

1 Файл /etc/snmp/snmpd.conf. Параметр agent address

```
user@Serebriacovclient:~$ ip add | grep inet
inet 127.0.0.1/8 scope host lo
inet6 ::1/128 scope host
inet 192.168.60.231/24 brd 192.168.60.255 scope global dynamic ens3
inet6 fe80::20a:35ff:fecc:777/64 scope link
user@Serebriacovclient:~$
```

```
#
# Listen for connections from the local system only
agentAddress udp:161
#6377
```

2. Параметры extend и rocommunity

```
extend now /usr/local/pgsql/bin/psql -t -A -U postgres -c "select now()"
extend test /usr/bin/echo "hello world"
# Full access from the local host
# rocommunity public localhost
# Default access to basic system info
rocommunity system 192.168.60.244/32 -V system
rocommunity net 192.168.60.244/32 -V net

rocommunity public default -V systemonly
rocommunity colprocrec 192.168.60.244/32 -V colproc
rocommunity free 192.168.60.244/32 -V freerm
rocommunity test 192.168.60.244/32 -V testv
rocommunity now 192.168.60.244/32 -V nowv
rocommunity known 192.168.60.244/32 -V testnow
# rocommunity6 is for IPv6
rocommunity6 public default -V systemonly
# Full access from an exa$
```

rocommunity

3. Параметр view

```
view systemonly included .1.3.6.1.2.1.25
view sysContact included .1.3.6.1.2.1.1.4
view colproc included .1.3.6.1.2.1.25.4.2.1.2
view freerm included .1.3.6.1.4.1.2021.4.11.0
view testv included .1.3.6.1.4.1.8072.1.3.2.3.1.1.4.116.101.115.116
view nowv included .1.3.6.1.4.1.8072.1.3.2.3.1.1.3.110.111.119
view system included .1.3.6.1.4.1.2021.
view net included .1.3.6.1.2.1.2.2.1.2.
view testnow included .1.3.6.1.4.1.8072.1.3.2.3.1
```

View

4. udp

```
root@Serebriacovserver:~# ss -tuanp
Netid State Recv-Q Send-Q Local Address:Port Peer Address:Port
udp UNCONN 0 0 0.0.0.0:161 0.0.0.0:*
users:(( "snmpd",pid=1229,fd=9))
udp UNCONN 0 0 0.0.0.0:53784 0.0.0.0:*
users:(( "snmpd",pid=1229,fd=11))
udp UNCONN 0 0 0.0.0.0:68 0.0.0.0:*
users:(( "dhclient",pid=344,fd=7))
root@Serebriacovserver:~#
root@Serebriacovserver:~#
```

Udp listen

5. На машине хоста отправляем snmpwalk по имени community

```
user@Serebriacovclient:~$ snmpwalk -c public -v 2c 192.168.60.230 1.3.6.1.2.1.1.4
iso.3.6.1.2.1.1.4.0 = STRING: "seremail"
iso.3.6.1.2.1.1.4.0 = No more variables left in this MIB View (It is past the end of the MIB tree)
user@Serebriacovclient:~$
```

Select mail from snmp.conf

6. Кол-во процессов stopped postgres на server машине

```
postgres@Serebriacovserver:~$ ps -aux | grep postgres
root      1407  0.0  0.1  9484 2968 pts/0    S   22:49   0:00 su - postgres
postgres  1408  0.0  0.0   2388   760 pts/0    S   22:49   0:00 -sh
postgres  1411  0.0  0.1  6992 3684 pts/0    S   22:49   0:00 bash
postgres  1414  0.0  0.1 10632 3028 pts/0    R+  22:49   0:00 ps -aux
postgres  1415  0.0  0.0   6076   884 pts/0    S+  22:49   0:00 grep postgres
```

7. Кол-во процессов started postgres на server машине

```
postgres@Serebriacovserver:~$ ps -aux | grep postgres
root      1407  0.0  0.1  9484 2968 pts/0    S   22:49   0:00 su - postgres
postgres  1408  0.0  0.0   2388   760 pts/0    S   22:49   0:00 -sh
postgres  1411  0.0  0.1  6992 3688 pts/0    S   22:49   0:00 bash
postgres  1420  1.5  0.8 160836 17348 ?        Ss   22:50   0:00 /usr/local/pgsql/bin/postgres
postgres  1422  0.0  0.1 160836 2588 ?         Ss   22:50   0:00 postgres: checkpointer
postgres  1423  0.0  0.1 160836 2588 ?         Ss   22:50   0:00 postgres: background writer
postgres  1424  0.0  0.1 160836 2588 ?         Ss   22:50   0:00 postgres: walwriter
postgres  1425  0.0  0.2 161404 5164 ?         Ss   22:50   0:00 postgres: autovacuum launcher
postgres  1426  0.0  0.1 15476 2652 ?         Ss   22:50   0:00 postgres: stats collector
postgres  1427  0.0  0.2 161264 5236 ?         Ss   22:50   0:00 postgres: logical replication launcher
postgres  1428  0.0  0.1 10632 2992 pts/0    R+  22:50   0:00 ps -aux
postgres  1429  0.0  0.0   6076   892 pts/0    S+  22:50   0:00 grep postgres
postgres@Serebriacovserver:~$
```

```
0
user@Serebriacovclient:~$ snmpwalk -v 2c -c colprocrec 192.168.60.234 1.3.6.1.2.1.25.4.2.1.2 | grep postgres | wc -l
7
user@Serebriacovclient:~$
```

Count process

8. Sh Script Count process

```
GNU nano 3.2      procs.sh      Modified

HOST=192.168.60.234

NUM=$(snmpwalk -v 2c -c colprocrec $HOST 1.3.6.1.2.1.25.4.2.1.2 | grep postgres$)
echo "procs: $NUM"

RED='\033[1;31m'
BLUE='\033[1;34m'
NOCOLOR='\033[0m'

if [ $NUM -lt 1 ]
then
    echo -e "postgres is ${RED}stopped${NOCOLOR}"
else
    echo -e "postgres is ${BLUE}running${NOCOLOR}"
fi

user@Serebriacovclient:~$ ./procs.sh
procs: 7
postgres is running
user@Serebriacovclient:~$
```

Proc.sh

9 Sh Script на несколько параметров

```
GNU nano 3.2      stats.sh

HOST=192.168.60.234

OID=1.3.6.1.4.1.2021.4.11.0
OIDdf=1.3.6.1.4.1.2021.9.1.6.1
OIDswap=1.3.6.1.4.1.2021.4.3.0
OIDproc=1.3.6.1.4.1.2021.10.1.3.1
OIDnet=1.3.6.1.2.1.2.2.1.2

VAL=$(snmpget -v 2c -Ovq -c system $HOST $OID)
echo "free memory: ${VAL} MB"

VAL=$(snmpwalk -v 2c -Ovq -c net $HOST $OIDnet)
echo "List name of network: ${VAL}"

VAL=$(snmpget -v 2c -Ovq -c system $HOST $OIDproc)
echo "Proc Load: ${VAL}"

VAL=$(snmpget -v 2c -Ovq -c system $HOST $OIDswap)
echo "swap memory: ${VAL} MB"

VAL=$(snmpget -v 2c -Ovq -c system $HOST $OIDdf)
echo "storage: ${VAL} MB"

user@Serebriacovclient:~$ ./stats.sh
free memory: 1362648 MB
List name of network: "lo"
"Intel Corporation 82540EM Gigabit Ethernet Controller"
No more variables left in this MIB View (It is past the
Proc Load: "0.00"
swap memory: 0 MB
storage: 4060864 MB
user@Serebriacovclient:~$
```

Stats.sh

10. Graph

11. Использование Extend

```
GNU nano 3.2 custom.sh

HOST=192.168.60.234

OID=1.3.6.1.4.1.8072.1.3.2.3.1.1.4.116.101.115.116

VAL=$(snmpget -v 2c -Ovq -c test $HOST $OID)
echo "result: ${VAL}"

OID2=1.3.6.1.4.1.8072.1.3.2.3.1.1.3.110.111.119

VAL2=$(snmpget -v 2c -Ovq -c now $HOST $OID2)
echo "now: ${VAL2}"

user@Serebriacovclient:~$ nano custom.sh
user@Serebriacovclient:~$ ./custom.sh
result: "hello world"
now: "2021-10-27 13:20:01.139816+03"
user@Serebriacovclient:~$
```

Extend.sh

12. Дополнительная информация по базе данных

```
2 extend oid /usr/local/pgsql/bin/psql -t -A -U postgres -c "select datid from
3 pg_stat_database"
4 extend name /usr/local/pgsql/bin/psql -t -A -U postgres -c "select datname f
5 rom pg_stat_database"
6 extend return /usr/local/pgsql/bin/psql -t -A -U postgres -c "select tup_ret
7 urned from pg_stat_database"
```

Oid, name, tup_returned

13. View

```
view oidv included .1.3.6.1.4.1.8072.1.3.2.3.1.1.3.157.151.144
view namev included .1.3.6.1.4.1.8072.1.3.2.3.1.1.4.156.141.155.145
view returnv included .1.3.6.1.4.1.8072.1.3.2.3.1.1.6.162.145.164.165.162.15
6
```

Таблица Ascii

97	141	0x61	01100001	a	a
98	142	0x62	01100010	b	b
99	143	0x63	01100011	c	c
100	144	0x64	01100100	d	d
101	145	0x65	01100101	e	e
102	146	0x66	01100110	f	f
103	147	0x67	01100111	g	g
104	150	0x68	01101000	h	h
105	151	0x69	01101001	i	i
106	152	0x6A	01101010	j	j
107	153	0x6B	01101011	k	k
108	154	0x6C	01101100	l	l
109	155	0x6D	01101101	m	m
110	156	0x6E	01101110	n	n
111	157	0x6F	01101111	o	o
112	160	0x70	01110000	p	p
113	161	0x71	01110001	q	q
114	162	0x72	01110010	r	r
115	163	0x73	01110011	s	s
116	164	0x74	01110100	t	t
117	165	0x75	01110101	u	u
118	166	0x76	01110110	v	v
119	167	0x77	01110111	w	w
120	170	0x78	01111000	x	x
121	171	0x79	01111001	y	y
122	172	0x7A	01111010	z	z

Rocommunity

```
rocommunity pg 192.168.60.244/32 -V oidv
rocommunity pg 192.168.60.244/32 -V namev
rocommunity pg 192.168.60.244/32 -V returnv
```

Custom.sh

```
GNU nano 3.2 custom.sh

HOST=192.168.60.216

OID2=1.3.6.1.4.1.8072.1.3.2.3.1.1.3.157.151.144

VAL=$(snmpget -v 2c -Ovq -c pg $HOST $OID2)
echo "now: ${VAL}"

OID2=1.3.6.1.4.1.8072.1.3.2.3.1.1.4.156.141.155.145

VAL=$(snmpget -v 2c -Ovq -c pg $HOST $OID2)
echo "now: ${VAL}"

OID2=1.3.6.1.4.1.8072.1.3.2.3.1.1.6.162.145.164.165.162.156
VAL=$(snmpget -v 2c -Ovq -c pg $HOST $OID2)
echo "now: ${VAL}"
```

(Not worked)

```
user@Vinogradovaclient:~$ ./custom.sh
now: No Such Instance currently exists at this OID
now: No Such Object available on this agent at this OID
now: No Such Object available on this agent at this OID
now: "2021-10-29 23:11:32.516976+03"
user@Vinogradovaclient:~$
```

15.Git

```
6f7187a..a3f14a2  main -> main
user@Serebriacovserver:~/snmpd$ ls
custom.sh  procs.sh  README.md  stats.sh
user@Serebriacovserver:~/snmpd$
```

```
02@gmail.com
user@Serebriacovserver:~/snmpd$ git push
Username for 'https://github.com': MaxSerebrriacov
Password for 'https://MaxSerebrriacov@github.com':
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 2 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 968 bytes | 968.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0)
To https://github.com/MaxSerebrriacov/snmpd.git
 6f7187a..a3f14a2  main -> main
user@Serebriacovserver:~/snmpd$
```