Предмет	Управление и		
	автоматизация баз данных		
Курс	4		
Семестр	1		
Работа	Lab10 snpm		
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
rommunity 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 testnow

# rocommunity known 192.168.60.244/32 -V testnow

# 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
```

4. udp

```
root@Serebriacovserver:~# ss -tuanp
                Recv-Q Send-0
                                    Local Address:Port
                                                             Peer Address:Port
Netid
      State
       UNCONN
                                          0.0.0.0:161
                                                                  0.0.0.0:*
abu
users:(("snmpd",pid=1229,fd=9))
       UNCONN 0
                                          0.0.0.0:53784
                                                                 0.0.0.0:*
abu
                         0
users:(("snmpd",pid=1229,fd=11))
       UNCONN 0
                                                                  0.0.0.0:*
                                          0.0.0.0:68
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 stoped postgres на server машине

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

7. Кол-во процессов started postgres на server машине

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

```
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

```
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
H0ST=192.168.60.234
OID=1.3.6.1.4.1.2021.4.11.0
0IDdf=1.3.6.1.4.1.2021.9.1.6.1
0IDswap=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=$(snmpget -v 2c -0vq -c system <mark>$HOST $OID</mark>)
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 <mark>$HOST $OIDproc</mark>
echo "Proc Load: ${VAL}"
VAL=$(snmpget -v 2c -Ovq -c system <mark>$HOST $OID</mark>swap
echo "swap memory: ${VAL} MB"
VAL=$(snmpget -v 2c -Ovq -c system $HOST $OIDdf)
ec<mark>ho "storage: ${VAL} MB</mark>"
user@Serebriacovclient:~$ ./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 -0vq -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 -0vq -c now $HOST $OID2)
echo "now: ${VAL2}"

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

```
extend oid /usr/local/pgsql/bin/psql -t -A -U postgres -c "select datid from pg_stat_database"
extend name /usr/local/pgsql/bin/psql -t -A -U postgres -c "select datname f rom pg_stat_database"
extend return /usr/local/pgsql/bin/psql -t -A -U postgres -c "select tup_ret 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
```

### Таблица Аѕсіі

97						
99 143	97	141	0x61	01100001	a	a
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 0110100 j j 107 153 0x68 0110100 j j 108 154 0x6C 0110110 h l 109 155 0x6D 0110110 m m 110 156 0x6E 0110110 n n 111 157 0x6F 0110111 o o 112 160 0x70 0111000 p o 114 162 0x72 0111000 r q 115 163 0x73 0111001 r s 116 164 0x74 0111010 r s 117 165 0x75 0111010 v v 119 167 0x77 0111011 w w 120 170 0x79 0111000 x w 121 171 0x79 0111000 x o 122 170 0x79 0111001 v џ 123 171 0x79 0111000 x p 124 171 0x79 0111000 x p 125 171 0x79 0111000 x p 126 170 0x78 0111000 x p 127 171 0x79 01111001 y p	98	142	0x62	01100010	b	b
101 145 0x65 01100101 e 8#101; 102 146 0x66 01100110 f 8#102; 103 147 0x67 01100111 g 8#103; 104 150 0x68 01101000 h 8#104; 105 151 0x69 01101001 i 8#105; 106 152 0x6A 0110100 j 8#106; 107 153 0x6B 0110100 l 8#107; 108 154 0x6C 01101100 l 8#109; 110 156 0x6E 0110110 m 8#109; 110 156 0x6E 0110110 n 8#110; 111 157 0x6F 0110111 o 8#111; 112 160 0x70 0111000 p 8#112; 113 161 0x71 0111000 p 8#113; 114 162 0x72 0111001 r 8#114; 115 163 0x73 0111001 s 8#115; 116 164 0x74 0111010 r 8#116; 117 165 0x75 0111010 v 8#118; 119 167 0x77 0111011 w 8#119; 120 170 0x78 0111000 x 8#112; 121 171 0x79 0111001 y 8#112;	99	143	0x63	01100011	с	c
102 146 0x66 01100110 f 8#102; 103 147 0x67 01100111 g 8#103; 104 150 0x68 01101000 h 8#104; 105 151 0x69 01101001 i 8#105; 106 152 0x6A 01101010 j 8#106; 107 153 0x6B 0110110 h 8#108; 109 155 0x6D 01101101 m 8#109; 110 156 0x6E 0110111 n 8#110; 111 157 0x6F 0110111 n 8#110; 112 160 0x70 0111000 p 8#111; 114 162 0x72 01110010 r 8#114; 115 163 0x73 0111001 r 8#115; 116 164 0x74 0111010 r 8#116; 117 165 0x75 0111010 u 8#118; 119 167 0x77 01110111 w 8#119; 120 170 0x79 0111000 x 8#119; 120 170 0x79 0111000 x 8#119; 120 170 0x79 0111000 x 8#119;	100	144	0x64	01100100	d	d
103 147 0x67 01100111 g 8#103; 104 150 0x68 01101000 h 8#104; 105 151 0x69 01101001 i 8#105; 106 152 0x6A 0110101 j 8#106; 107 153 0x6B 0110101 k 8#107; 108 154 0x6C 01101100 l 8#108; 109 155 0x6D 0110110 m 8#109; 110 156 0x6E 01101110 n 8#110; 111 157 0x6F 0110111 o 8#111; 112 160 0x70 011000 p 8#112; 113 161 0x71 0111000 p 8#112; 114 162 0x72 01110010 r 8#114; 115 163 0x73 0111001 s 8#115; 116 164 0x74 01110100 t 8#116; 117 165 0x75 01110110 u 8#118; 119 167 0x77 01110111 w 8#119; 120 170 0x78 0111000 x 8#112;	101	145	0x65	01100101	e	e
104 150 0x68 01101000 h 8#104; 105 151 0x69 01101001 i 8#105; 106 152 0x6A 01101010 j 8#106; 107 153 0x6B 01101001 l 8#108; 108 154 0x6C 01101100 l 8#108; 109 155 0x6D 01101101 m 8#109; 110 156 0x6E 0110110 n 8#110; 111 157 0x6F 0110111 o 8#111; 112 160 0x70 0111000 p 8#112; 113 161 0x71 0111000 p 8#113; 114 162 0x72 01110010 r 8#114; 115 163 0x73 0111001 r 8#115; 116 164 0x74 0111010 t 8#116; 117 165 0x75 0111010 u 8#117; 118 166 0x76 0110110 v 8#118; 119 167 0x77 0111011 w 8#119; 120 170 0x79 0111000 x 8#12;	102	146	0x66	01100110	f	f
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 0111000 p p 113 161 0x71 0111000 p q 114 162 0x72 01110010 r r 115 163 0x73 01110011 s s 116 164 0x74 01110100 t t 117 165 0x75 0111010 u u 118 166 0x76 01110110 v v 119 167 0x77 01110111 w w 120 170 0x79 0111000 x x	103	147	0x67	01100111	g	g
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 ј 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 0111001 y y	104	150	0x68	01101000	h	h
107 153 0x68 01101011 k 8#107; 108 154 0x6C 01101100 1 8#108; 109 155 0x6D 01101101 m 8#109; 110 156 0x6E 01101110 n 8#110; 111 157 0x6F 01101111 o 8#111; 112 160 0x70 01110000 p 8#112; 113 161 0x71 01110001 q 8#113; 114 162 0x72 01110010 r 8#114; 115 163 0x73 01110011 s 8#115; 116 164 0x74 01110100 t 8#116; 117 165 0x75 01110101 u 8#117; 118 166 0x76 01110110 v 8#118; 119 167 0x77 01110111 w 8#119; 120 170 0x78 0111000 x 8#120; 121 171 0x79 01111001 y 8#121;	105	151	0x69	01101001	i	i
108	106	152	0x6A	01101010	j	j
109 155 0x6D 01101101 m 8#109; 110 156 0x6E 01101110 n 8#110; 111 157 0x6F 01101111 o 8#111; 112 160 0x70 01110000 p 8#112; 113 161 0x71 01110001 q 8#113; 114 162 0x72 01110010 r 8#114; 115 163 0x73 01110011 s 8#115; 116 164 0x74 01110100 t 8#116; 117 165 0x75 01110101 u 8#117; 118 166 0x76 01110110 v 8#118; 119 167 0x77 01110111 w 8#119; 120 170 0x78 0111001 y 8#121;	107	153	0x6B	01101011	k	k
110 156 0x6E 01101110 n 8#110;  111 157 0x6F 01101111 o 8#111;  112 160 0x70 01110000 p 8#112;  113 161 0x71 01110001 q 8#113;  114 162 0x72 01110010 r 8#114;  115 163 0x73 01110011 s 8#115;  116 164 0x74 01110100 t 8#116;  117 165 0x75 01110101 u 8#117;  118 166 0x76 01110110 v 8#118;  119 167 0x77 01110111 w 8#119;  120 170 0x78 0111000 x 8#120;  121 171 0x79 01111001 y 8#121;	108	154	0x6C	01101100	1	l
111 157	109	155	0x6D	01101101	m	m
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 0111000 x x  121 171 0x79 01111001 y y	110	156	0x6E	01101110	n	 <b>1</b> 0;
113 161	111	157	0x6F	01101111	o	 <b>1</b> 1;
114 162 0x72 01110010 r 8#114; 115 163 0x73 01110011 s 8#115; 116 164 0x74 01110100 t 8#116; 117 165 0x75 01110101 u 8#117; 118 166 0x76 01110110 v 8#118; 119 167 0x77 01110111 w 8#119; 120 170 0x78 0111000 x 8#120; 121 171 0x79 01111001 y 8#121;	112	160	0x70	01110000	р	p
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 0111000 x x 121 171 0x79 01111001 y y	113	161	0x71	01110001	q	q
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 0111000 x x  121 171 0x79 01111001 y y	114	162	0x72	01110010	r	r
117 165 0x75 01110101 u 8#117; 118 166 0x76 01110110 v 8#118; 119 167 0x77 01110111 w 8#119; 120 170 0x78 0111000 x 8#120; 121 171 0x79 01111001 y 8#121;	115	163	0x73	01110011	S	s
118 166 0x76 01110110 v 8#118; 119 167 0x77 01110111 w 8#119; 120 170 0x78 0111000 x 8#120; 121 171 0x79 01111001 y 8#121;	116	164	0x74	01110100	t	 <b>1</b> 6;
119 167 0x77 01110111 W 8#119; 120 170 0x78 0111000 x 8#120; 121 171 0x79 01111001 y 8#121;	117	165	0x75	01110101	u	 <b>1</b> 7;
120 170 0x78 01111000 x 8#120; 121 171 0x79 01111001 y 8#121;	118	166	0x76	01110110	V	v
121 171 0x79 01111001 y 8#121;	119	167	0x77	01110111	W	 <b>1</b> 9;
	120	170	0x78	01111000	x	x
122 172 0x7A 01111010 z z	121	171	0x79	01111001	У	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

```
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 -0vq -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 -0vq -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 -0vq -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

```
custom.sh procs.sh README.md stats.sh

user@Serebriacovserver:~/snmpd$

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$
```

user@Serebriacovserver:~/snmpd\$ ls