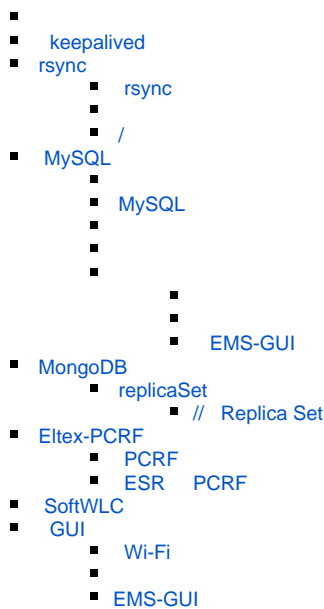


v1.19_ SoftWLC



SoftWLC master-slave. (, ,), MySQL (master-master), MongoDB, DHCP . , , .

ip- <ip_server1>, <ip_server2> <virtual_ip>, :

- <ip_server1> - ip-
- <ip_server2> - ip-
- <virtual_ip> - ip-

SoftWLC :

- keepalived
- rsync
- MySQL
- replicaSet MongoDB
- Eltex-PCRF
- IP

keepalived

. . keepalived Wi-Fi .

. keepalived_1.4.2.

rsync

Rsync Eltex-EMS Eltex-APB, , , . Rsync . master- slave- .

rsync

rsync /etc/default/rsync :
RSYNC_ENABLE=true

/etc/ rsyncd.conf .

/etc/rsyncd.conf

```
[ems-conf]
path = /usr/lib/eltex-ems/conf/
use chroot = no
max connections = 2
lock file = /var/lock/rsyncd
read only = no
list = no
uid = root
auth users = backup
secrets file = /etc/rsyncd.secrets
strict modes = yes
# IP- , , ..
hosts allow = <ip_server1> <virtual_ip>
ignore errors = no
ignore nonreadable = yes
transfer logging = no
timeout = 60
refuse options = checksum dry-run
dont compress = *.gz *.tgz *.zip *.z *.rpm *.deb *.iso *.bz2 *.tbz
```

```
[ems-tftp]
path = /tftpboot
use chroot = no
max connections = 2
lock file = /var/lock/rsyncd.tftp
read only = no
list = no
uid = root
auth users = backup
secrets file = /etc/rsyncd.secrets
strict modes = yes
hosts allow = <ip_server1> <virtual_ip>
ignore errors = no
ignore nonreadable = yes
transfer logging = no
timeout = 60
refuse options = checksum dry-run
dont compress = *.gz *.tgz *.zip *.z *.rpm *.deb *.iso *.bz2 *.tbz
```

```
[ems-wp]
path = /var/ems-data/WP
use chroot = no
max connections = 2
lock file = /var/lock/rsyncd.ems-wp
read only = no
list = no
uid = root
auth users = backup
secrets file = /etc/rsyncd.secrets
strict modes = yes
hosts allow = 10.62.8.121 10.62.8.122
ignore errors = no
ignore nonreadable = yes
transfer logging = no
timeout = 60
refuse options = checksum dry-run
dont compress = *.gz *.tgz *.zip *.z *.rpm *.deb *.iso *.bz2 *.tbz
```

hosts allow master .

hosts allow = <ip__> <virtual ip>

rsync , /etc/rsyncd.secrets, .

backup:rspasswd

, :

```
root@swlc01-server:/# chmod 600 /etc/rsyncd.secrets
```

/etc/rsync_client.secrets, :

```
root@swlc01-server:/# echo "rspasswd" > /etc/rsync_client.secrets && chmod 600 /etc/rsync_client.secrets
```

cron, /usr/lib/eltex-ems/scripts/rsync_ems_backup.sh. rsync (backup). , master.

/usr/lib/eltex-ems/scripts/rsync_ems_backup.sh

```
#!/bin/bash

LOCKFILE="/run/lock/rsync_ems_backup"

# IP address backup server
HOST=<ip_server2>
# Check if we're root
if [ `whoami` != "root" ]
then
    echo "This script should be run by root."
    exit 1
fi

# Check and create lock file
if ! lockfile-create --use-pid -r 0 $LOCKFILE &> /dev/null ; then
    echo "Backup is already running"
    exit 0
fi

# Check - if we're master - try to perform backup to slave
SRVMODE=`cat /tmp/keep.mode`
if [ "$SRVMODE" == "MASTER" ]
then
    rsync -urlogtp --delete-after --password-file=/etc/rsync_client.secrets /usr/lib/eltex-ems/conf/
backup@$HOST::ems-conf > /tmp/rsync_ems_conf.log 2>&1
    echo $? >> /tmp/rsync_ems_conf_result.log
    rsync -urlogtp --delete-after --password-file=/etc/rsync_client.secrets /tftpboot/ backup@$HOST::ems-
tftp > /tmp/rsync_ems_tftpboot.log 2>&1
    echo $? >> /tmp/rsync_ems_tftpboot_result.log
    rsync -urlogtp --delete-after --password-file=/etc/rsync_client.secrets /var/ems-data/WP/ backup@$HOST::ems-
wp > /tmp/rsync_ems_wp.log 2>&1
    echo $? >> /tmp/rsync_ems_wp_result.log
else
    echo "Not master. No action will be performed."
fi

lockfile-remove $LOCKFILE
```

- **backup - , /etc/rsyncd.secrets**
- **HOST - ip-**

C cron :

```
root@swlc01-server:/# crontab -l | { cat; echo "*/1 * * * * /usr/lib/eltex-ems/scripts/rsync_ems_backup.sh"; }
| crontab
```

```
root@swlc01-server:/# crontab -l
root@swlc01-server:/# */1 * * * * /usr/lib/eltex-ems/scripts/rsync_ems_backup.sh
```

-

```
root@swlc01-server:/# crontab -e

Select an editor. To change later, run 'select-editor'.
 1. /bin/nano          <---- easiest
 2. /usr/bin/vim.tiny
 3. /usr/bin/code
 4. /bin/ed

Choose 1-4 [1]: 1                                #
```

/

:

```
root@swlc01-server:/# service rsync start
```

:

```
root@swlc01-server:/# service rsync stop
```

— , :

```
root@swlc01-server:/# service rsync status
```

:

```
* rsync is running
```

,

```
* rsync is not running
```

.

MySQL

, MySQL, master-master (-), master slave, . , . (<https://dev.mysql.com/doc/refman/5.7/en/replication.html>). , .

(MySQL) . **mysqldump**.

, , :

```

root@swlc01-server:/# mysql -uroot -proot -e "FLUSH TABLES WITH READ LOCK;"
root@swlc01-server:/# mysqldump -uroot -proot --databases ELTEX_PORTAL eltex_alert eltex_auth_service eltex_ems
payments radius wireless > mysqldump_master.sql
root@swlc01-server:/# mysql -uroot -proot -e "UNLOCK TABLES;"
root@swlc01-server:/# scp mysqldump_master.sql <username>@<ip_server2>:/home/<username>/

```

dump :

```

root@swlc01-server:/# mysql -uroot -proot < /home/<username>/mysqldump_master.sql

```

MySQL

mysqld . , .

[mysqld] /etc/mysql/mysql.conf.d/mysqld.cnf :

:

```

bind-address = 127.0.0.1

```

server-id. , , i

```

server-id = 1

```

i

```

server-id = 2

```

:

```

log_bin = /var/log/mysql/mysql-bin.log

```

auto_increment_increment () auto_increment_offset ().

i

```

auto_increment_increment= 2
auto_increment_offset = 1

```

i

```

auto_increment_increment= 2
auto_increment_offset = 2

```

i

• , :

```

binlog-do-db = eltex_alert
binlog-do-db = eltex_ems
binlog-do-db = wireless
binlog-do-db = radius
binlog-do-db = eltex_auth_service
binlog-do-db = ELTEX_PORTAL
binlog-do-db = payments

```

• y, :

```
binlog-ignore-db = mysql
binlog-ignore-db = Syslog
binlog-ignore-db = performance_schema
binlog-ignore-db = information_schema
```

mysql .

```
root@swlc01-server:/# service mysql restart
```

. master .

MySQL :

```
GRANT SELECT, SUPER, REPLICATION SLAVE, REPLICATION CLIENT ON *.* TO 'replication'@'<ip_server2>' IDENTIFIED BY
'password';
GRANT SELECT, SUPER, REPLICATION SLAVE, REPLICATION CLIENT ON *.* TO 'replication'@'<ip_server1>' IDENTIFIED BY
'password'; # EMS
FLUSH PRIVILEGES;
```

MySQL :

```
GRANT SELECT, SUPER, REPLICATION SLAVE, REPLICATION CLIENT ON *.* TO 'replication'@'<ip_server1>' IDENTIFIED BY
'password';
GRANT SELECT, SUPER, REPLICATION SLAVE, REPLICATION CLIENT ON *.* TO 'replication'@'<ip_server2>' IDENTIFIED BY
'password'; # EMS
FLUSH PRIVILEGES;
```



SELECT GUI EMS

/usr/lib/eltex-ems/conf/config.txt, username (- javauser)

```
GRANT ALL PRIVILEGES ON *.* TO 'username'@'%' IDENTIFIED BY 'password';
```

MySQL **show master status** :

```
mysql> show master status \G
```

```
***** 1. row *****
      File: mysql-bin.000001
      Position: 00000107
      Binlog_Do_DB: eltex_alert,eltex_ems,radius,wireless,eltex_auth_service,payments,ELTEX_PORTAL
      Binlog_Ignore_DB: mysql,Syslog,performance_schema,information_schema
      1 row in set (0.00 sec)
```

File Position.



Position 107. -.

():

```
STOP SLAVE;  
CHANGE MASTER TO MASTER_HOST='<ip_server1>', MASTER_USER='replication', MASTER_PASSWORD='password',  
MASTER_LOG_FILE='mysql-bin.000001', MASTER_LOG_POS=107;  
START SLAVE;
```

- MASTER_LOG_FILE='mysql-bin.000001' – File, .
- MASTER_LOG_POS=107 – Position, (107).

```
mysql> show slave status \G  
***** 1. row *****  
Slave_IO_State: Waiting for master to send event  
Master_Host: <ip_server1>  
Master_User: replication  
Master_Port: 3306  
Connect_Retry: 60  
Master_Log_File: mysql-bin.000001  
Read_Master_Log_Pos: 107  
Relay_Log_File: mysqld-relay-bin.000001  
Relay_Log_Pos: 107  
Relay_Master_Log_File: mysql-bin.000001  
Slave_IO_Running: Yes  
Slave_SQL_Running: Yes  
Replicate_Do_DB:  
Replicate_Ignore_DB:  
Replicate_Do_Table:  
Replicate_Ignore_Table:  
Replicate_Wild_Do_Table:  
Replicate_Wild_Ignore_Table:  
Last_Errno: 0  
Last_Error:  
Skip_Counter: 0  
Exec_Master_Log_Pos: 107  
Relay_Log_Space: 107  
Until_Condition: None  
Until_Log_File:  
Until_Log_Pos: 0  
Master_SSL_Allowed: No  
Master_SSL_CA_File:  
Master_SSL_CA_Path:  
Master_SSL_Cert:  
Master_SSL_Cipher:  
Master_SSL_Key:  
Seconds_Behind_Master: 0  
Master_SSL_Verify_Server_Cert: No  
Last_IO_Errno: 0  
Last_IO_Error:  
Last_SQL_Errno: 0  
Last_SQL_Error:  
Replicate_Ignore_Server_Ids:  
Master_Server_Id: 2  
1 row in set (0.00 sec)
```

Slave_IO_Running Slave_SQL_Running «Yes», .

:

```
show master status \G
mysql> show master status \G

***** 1. row *****
      File: mysql-bin.000001
      Position: 00000107
      Binlog_Do_DB: eltex_alert,eltex_ems,eltex_ont,radius,wireless,eltex_auth_service,payments,ELTEX_PORTAL
      Binlog_Ignore_DB: mysql,Syslog,performance_schema,information_schema
      1 row in set (0.00 sec)
```

():

```
STOP SLAVE;
CHANGE MASTER TO MASTER_HOST='<ip_server2>', MASTER_USER='replication', MASTER_PASSWORD='password',
MASTER_LOG_FILE='mysql-bin.000001', MASTER_LOG_POS=107;
START SLAVE;
```

:

```
mysql> show slave status \G
***** 1. row *****
      Slave_IO_State: Waiting for master to send event
      Master_Host: <ip_server2>
      Master_User: replication
      Master_Port: 3306
      Connect_Retry: 60
      Master_Log_File: mysql-bin.000001
      Read_Master_Log_Pos: 107
      Relay_Log_File: mysqld-relay-bin.000001
      Relay_Log_Pos: 107
      Relay_Master_Log_File: mysql-bin.000001
      Slave_IO_Running: Yes
      Slave_SQL_Running: Yes
      ...
```

,

```
Slave_IO_Running Slave_SQL_Running «Yes», Master_Log_File Read_Master_Log_Pos .
```

EMS-GUI

```
MySQL GUI EMS. /etc/eltex-ems/check-ems-replication.conf. .
```


/etc/eltex-ems/check-ems-replication.conf

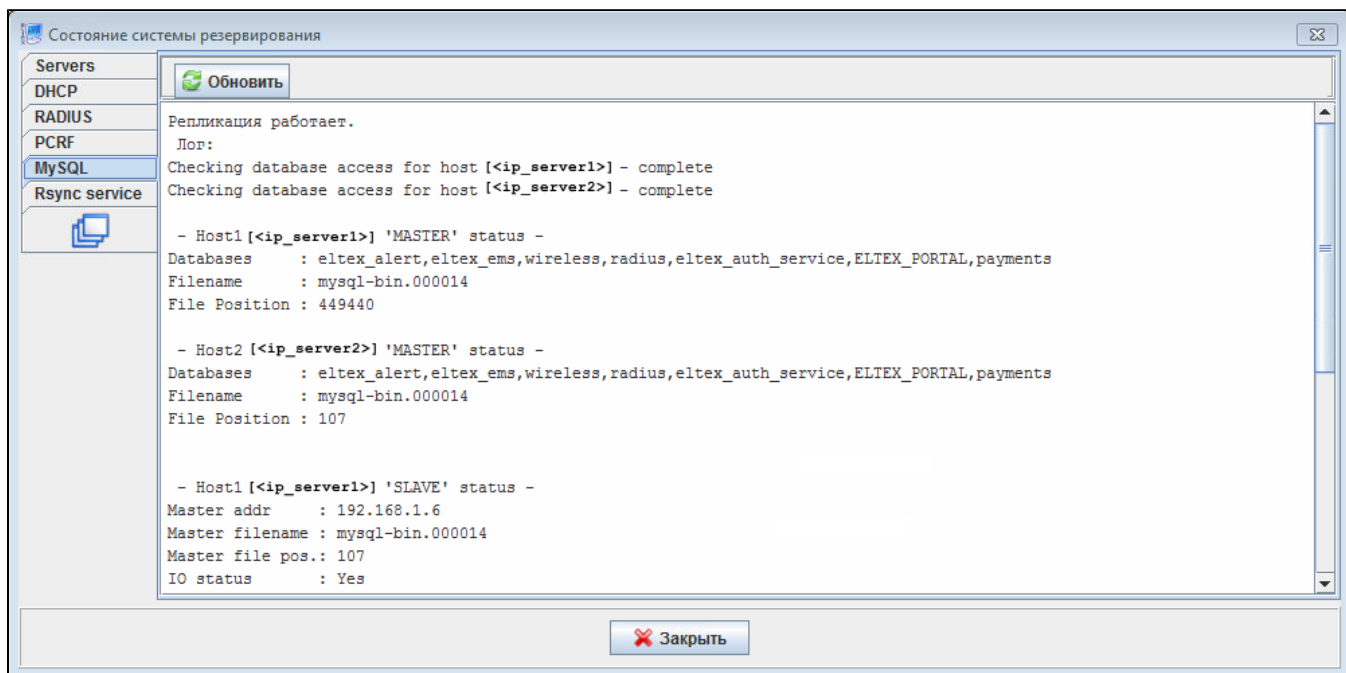
```
# ("Yes") / ("No")
ENABLE_REPLICATION="Yes"

#
HOST1=<ip_server1>
#
HOST2=<ip_server2>

# mysql
# mysql
USER="replication"
# mysql
PASSWORD="password"
```

- **ENABLE_REPLICATION** - ("Yes")
- **HOST1, HOST2** - ip-
- **USER, PASSWORD** - / , .

GUI EMS *MySQL*.



MongoDB

MongoDB (- 3) Replica Set. Replica Set primary secondary (<https://docs.mongodb.com/v4.0/administration/replica-set-deployment/>). :

Primary — mongoDB.

Secondary — () real-time .

Arbiter — , , .

mongo-db arbiter:

vCore: 1, 64-bit x86 CPUs

vRAM: 2

vHDD: 20

primary. MongoDB failover primary , primary . 3+ replica set.



Replica Set (secondary).

replicaSet

/etc/mongod.conf :

/

```
replication:
  replSetName: "<replica_set_name>"
```

<replica_set_name> replica set, , .

, bindIp (bind_ip mongo) 0.0.0.0 (0.0.0.0 - ip)

```
bindIp: 0.0.0.0
```

MongoDB

```
root@swlc01-server:/# service mongod restart
```

MongoDB

```
root@swlc01-server:/# mongo
```

replica set



hostname ip-, /etc/hostname /etc/hosts <IP_address> <hostname>

```
> rs.initiate(
  {
    _id: "replica_set_name",
    version: 1,
    members: [
      { _id: 0, host : "ip_mongo_primary:27017" },
      { _id: 1, host : "ip_mongo_secondary:27017" },
      { _id: 2, host : "ip_mongo_arbiter:27017,true" }
    ]
  }
)
```

, shell :

```
replica_set_name:PRIMARY>
```

:

```
replica_set_name:PRIMARY> rs.config()
```

Replica Set MongoDB rs.status()

// Replica Set

Replica Set PRIMARY

Replica Set **Secondary**:

```
replica_set_name:PRIMARY> rs.add("<ip_server>:27017")
{ "ok" : 1 }
```

MongoDB ,, (bindIp: 127.0.0.1), replication. .
MongoDB :

```
root@swlc01-server:/# mongo
replica_set_name:SECONDARY>
```

Replica Set **Arbiter**:

```
replica_set_name:PRIMARY> rs.add("<ip_server>:27017",true)
{ "ok" : 1 }
```

Replica Set (PRIMARY):

```
replica_set_name:PRIMARY> rs.remove("<ip_server>:27017")
{ "ok" : 1 }
```

:

```
replica_set_name:PRIMARY> cfg = rs.conf()
replica_set_name:PRIMARY> cfg.members[<>].host = "<ip_server>:27017"
replica_set_name:PRIMARY> rs.reconfig(cfg)
```

Eltex-PCRF

PCRF

PCRF 5701 tcp, 5801 tcp

/etc/eltex-pcrf/hazelcast-cluster-network.xml (5 22 - , 14-15 -)
, :

```

<network>
  <!-- Write here public address of the node -->

  <!--      -->
  <public-address>ip_server1</public-address>
  <port auto-increment="false" port-count="100">5701</port>
  <outbound-ports>
    <ports>0</ports>
  </outbound-ports>
  <join>
    <multicast enabled="false"/>
    <tcp-ip enabled="true">
      <!-- IP-      ( ) -->
      <member>ip_server1</member>
      <member>ip_server2</member>
    </tcp-ip>
    <discovery-strategies>
    </discovery-strategies>
  </join>
  <interfaces enabled="true">
  <!--      -->
    <interface>ip_server1</interface>
  </interfaces>

```

/etc/eltex-pcrf/eltex-pcrf.json :

```
"cluster.enable" : true,
```

Eltex-PCRF

```
root@swlc01-server:/# service eltex-pcrf restart
```

- http://<ip_server1>:7070/cluster
- http://<ip_server2>:7070/cluster

```

{
  "data" : {
    "enabled" : true,
    "state" : "ACTIVE",
    "members" : [ {
      "address" : "ip_server1",
      "local" : true,
      "active" : true
    }, {
      "address" : "ip_server2",
      "local" : false,
      "active" : true
    } ],
    "messagesStats" : {
      "received" : 45157,
      "sent" : 45144
    },
    "mongo" : {
      "available" : false,
      "error" : "not running with --replSet"
    }
  },
  "key" : "PcrfErrorCode.success",
  "message" : "Success",
  "code" : 0,
  "args" : [ ]
}

```

ESR PCRF

PCRF ESR .

SoftWLC

SoftWLC virtual ip .

/etc/eltex-apb/apb.properties

```
mercury.host=localhost
mercury.port=6565
mercury.pool.size=100

# Config filePath to cache
cache.config=/etc/eltex-apb/ehcache.xml

# list of permitted files to
hosts.file=/etc/eltex-apb/hosts.json

# Timeout waiting for subscribe-request after connecting the access point to the server, in seconds
subscribe.idle.timeout=60

# Maximum count of outgoing messages to queue for each session
session.outgoingQueue=100
nbi.client.login=admin
nbi.client.password=password
```

- localhost <virtual_ip> 1.

/etc/eltex-pcrf/eltex-pcrf.json

```
{
  "auth.address" : "0.0.0.0",
  "auth.port" : 31812,
  "auth.mac.open.timeout.s" : 3600,
  "auth.mac.welcome.service" : "WELCOME",

  "acct.address" : "0.0.0.0",
  "acct.ports" : [1813, 31813],

  "lease.saver.address" : "0.0.0.0",
  "lease.saver.port" : 4381,

  "aaa.instances" : 5,
  "aaa.host" : "127.0.0.1",
  "aaa.secret" : "testing123",
  "aaa.auth.port" : 1812,
  "aaa.acct.port" : 1813,
  "aaa.rest.port" : 7080,
  "aaa.timeout" : 10,
  "aaa.attempts" : 1,

  "web.monitoring.port" : 7070,

  "cluster.enable" : false,
  "cluster.eventBusPort" : 5801,

  "radius" : {
    "url": "jdbc:mysql://localhost/radius?
useUnicode=true&characterEncoding=utf8&connectTimeout=5000&socketTimeout=5000&autoReconnect=true&useSSL=false",
    "user": "javauser",
```

```

    "password": "javapassword",
    "max_pool_size": 16
  },

  "mongo.pcrf" : {
    "connection_string": "mongodb://localhost:27017/pcrf?
waitQueueMultiple=500&connectTimeoutMS=10000&socketTimeoutMS=0",
    "db_name": "pcrf"
  },

  "mongo.ott" : {
    "connection_string": "mongodb://localhost:27017/ott?
waitQueueMultiple=500&connectTimeoutMS=10000&socketTimeoutMS=0",
    "db_name": "ott"
  },

  "session.storage" : {
    "session.check.period.s" : 300,
    "unauth.store.time.s" : 600,
    "interval.number.expired" : 3,
    "min.interval.s" : 45,
    "default.interval.s" : 600
  },

  "bras.coa" : {
    "coa.timeout" : 10,
    "coa.attempts" : 1,
    "remote.coa.port" : 3799,
    "executor.size" : 100,
    "log.clean.period.s" : 600,
    "log.store.period" : {
      "period" : 14,
      "unit" : "D"
    }
  },

  "sql.ems" : {
    "url": "jdbc:mysql://localhost/eltex_ems?
useUnicode=true&characterEncoding=utf8&connectTimeout=5000&socketTimeout=5000&autoReconnect=true&useSSL=false",
    "user": "javauser",
    "password": "javapassword",
    "max_pool_size": 16
  },

  "sql.wireless" : {
    "url": "jdbc:mysql://localhost/wireless?
useUnicode=true&characterEncoding=utf8&connectTimeout=5000&socketTimeout=5000&autoReconnect=true&useSSL=false",
    "user": "javauser",
    "password": "javapassword",
    "max_pool_size": 16
  },

  "sql.auth.service" : {
    "url": "jdbc:mysql://localhost/eltex_auth_service?
zeroDateTimeBehavior=convertToNull&useUnicode=true&characterEncoding=utf8&connectTimeout=5000&socketTimeout=5000
&useSSL=false",
    "user": "javauser",
    "password": "javapassword",
    "max_pool_size": 4
  },

  "language" : "en",

  "radius.nbi" : {
    "wsdl.url" : "http://localhost:8080/axis2/services/RadiusNbiService?wsdl",
    "username" : "softwlc_service",
    "password" : "softwlc",
    "connection.timeout.ms" : 30000,
    "request.timeout.ms" : 120000
  },

```

```

"tariffs.update.interval" : {
  "interval" : 1,
  "unit" : "hours"
},

"bras.cron.update.interval": {
  "interval" : 1,
  "unit": "hours"
},

"filters.cache.dir" : "/var/lib/eltex-pcrf/filters/",

"clickhouse": {
  "url": "jdbc:clickhouse://localhost:8123/radius",
  "user_name": "javauser",
  "user_password": "javapassword"
},

"accounting.options": {
  "use_clickhouse": false,
  "use_mysql": true,
  "batch_interval_ms": 300000,
  "max_queue_load": 100
}
}

```

- [mongodb://localhost mongodb://ip_mongo_primary,ip_mongo_secondary](#) .
- [localhost <virtualip>](#) .
- [127.0.0.1 <virtualip>](#) .

/etc/eltex-portal-constructor/application.conf

```

auth-service {
  host = localhost
  port = 21812
  timeout = 10s
  retries = 3
  secret = eltex
  # pap, chap, mschapv2
  protocol = pap
}

login {
  #
  maxAttemptsLogin = 3
  maxAttemptsIP = 5
  #
  blockTime = 5m
}

access {
  // plaintext-secret (HMAC256), FS PEM- (RSA256)
  secret = "secret"
}

database {
  host = localhost
  port = 3306
  name = ELTEX_PORTAL
  user = javauser
  password = javapassword

  pool {
    # Time to wait for a connection
    connectionTimeout = 10s
    # Time to wait for connection validation
    validationTimeout = 3s
  }
}

```

```

        min = 1
        max = 10
    }

    cache {
        # Limit of cached simple entries count (for each query type)
        maxEntries = 1000
        # Limit of total cached portal resources size
        maxResourceBytes = 32m
        # Maximum time to retain items in the cache
        expireTime = 30s
    }
}

sso {
    enabled = false
    # Must be in double quotes
    version = "1.0"

    rest {
        scheme = http
        host = localhost
        port = 80
        sso_api_path = /apiman-gateway/b2b_test
    }
    auth {
        scheme = http
        host = localhost
        port = 80
        authentication_path = /auth/realms/b2b/protocol/openid-connect/auth
        logout_path = /auth/realms/b2b/protocol/openid-connect/logout
    }

    params {
        client_id = id
        # URL of epadmin, URL must be in double quotes (!!!)
        redirect_uri = "http://localhost:8080/epadmin/sso"
        client_secret = secret
    }
}

jetty {
    https {
        port = 9444
        keystorePass = 12345
        keystoreFile = /etc/eltex-portal-constructor/localhost.pfx
        keystoreType = PKCS12
        keyAlias = 1
        ciphers = [
            TLS_RSA_WITH_AES_128_CBC_SHA2

```

- **localhost** <virtualip> 2, 25, 58, 64, 74.

/etc/eltex-portal/application.conf

```
portal {
  defaultRedirectUrl = "http://eltex-co.ru"

  scheduler {
    tariffCheckerPeriod = 1d
    paymentsCleanerPeriod = "0 0 * * * ?"
  }
}

jetty {
  https {
    port = 9443
    keystorePass = 12345
    keystoreFile = /etc/eltex-portal/localhost.pfx
    keystoreType = PKCS12
    keyAlias = 1
    ciphers = [
      TLS_RSA_WITH_AES_128_CBC_SHA256
      TLS_RSA_WITH_AES_128_CBC_SHA
      TLS_RSA_WITH_AES_256_CBC_SHA256
      TLS_RSA_WITH_AES_256_CBC_SHA
    ]
  }
}

database {
  host = localhost
  port = 3306
  name = ELTEX_PORTAL
  user = javauser
  password = javapassword

  pool {
    # Time to wait for a connection
    connectionTimeout = 10s
    # Time to wait for connection validation
    validationTimeout = 3s

    min = 1
    max = 10
  }

  cache {
    # Limit of cached simple entries count (for each query type)
    maxEntries = 1000
    # Limit of total cached portal resources size
    maxResourceBytes = 32m
    # Maximum time to retain items in the cache
    expireTime = 2m
  }
}

// JWT validation. You need a key from Eltex Doors.
// Or you could generate it yourself.
validation {
  public_key = "etc/eltex-doors/keys/public.pem"
```

- localhost <virtualip> 27.

/etc/eltex-radius-nbi/radius_nbi_config.txt

```
# DB radius(alias=radius)
radius.jdbc.driver=org.gjt.mm.mysql.Driver
```

```

radius.jdbc.dbUrl=jdbc:mysql://localhost/radius?
zeroDateTimeBehavior=convertToNull&useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=50
00
radius.jdbc.username=javauser
radius.jdbc.password=javapassword
radius.jdbc.maxPoolSize=48
radius.jdbc.inUse=yes

# DB radius replica(alias=radiusReplicaPool)
#TODO: Change it to replica url
radius.jdbc.replica.driver=org.gjt.mm.mysql.Driver
radius.jdbc.replica.dbUrl=jdbc:mysql://localhost/radius?
zeroDateTimeBehavior=convertToNull&useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=50
00
radius.jdbc.replica.username=javauser
radius.jdbc.replica.password=javapassword
radius.jdbc.replica.maxPoolSize=48
radius.jdbc.replica.inUse=yes

# DB ems(alias=ems)
ems.jdbc.driver=org.gjt.mm.mysql.Driver
ems.jdbc.dbUrl=jdbc:mysql://localhost/eltex_ems?
zeroDateTimeBehavior=convertToNull&useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=50
00&noAccessToProcedureBodies=true
ems.jdbc.username=javauser
ems.jdbc.password=javapassword
ems.jdbc.maxPoolSize=48
ems.jdbc.inUse=yes

# DB wireless (alias=wireless)
wireless.jdbc.driver=org.gjt.mm.mysql.Driver
wireless.jdbc.dbUrl=jdbc:mysql://localhost/wireless?
zeroDateTimeBehavior=convertToNull&useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=50
00
wireless.jdbc.username=javauser
wireless.jdbc.password=javapassword
wireless.jdbc.maxPoolSize=48
wireless.jdbc.inUse=yes

# DB logs (alias=logs)
logs.jdbc.driver=org.gjt.mm.mysql.Driver
logs.jdbc.dbUrl=jdbc:mysql://localhost/eltex_alert?
zeroDateTimeBehavior=convertToNull&useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=50
00
logs.jdbc.username=javauser
logs.jdbc.password=javapassword
logs.jdbc.maxPoolSize=48
logs.jdbc.inUse=yes

# DB logs (alias=eltex_auth_service)
eltex_auth_service.jdbc.driver=org.gjt.mm.mysql.Driver
eltex_auth_service.jdbc.dbUrl=jdbc:mysql://localhost/eltex_auth_service?
zeroDateTimeBehavior=convertToNull&useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=50
00
eltex_auth_service.jdbc.username=javauser
eltex_auth_service.jdbc.password=javapassword
eltex_auth_service.jdbc.maxPoolSize=48
eltex_auth_service.jdbc.inUse=no

# ems-northbound
ems.nbi.host=127.0.0.1
ems.nbi.port=8080
ems.nbi.path=northbound
ems.nbi.protocol=http

# eltex_auth_service
auth.port=22
auth.host=127.0.0.1
auth.username=username
auth.password=password

```

```

# freeradius-domain-1
freeradius-domain-1.port=22
freeradius-domain-1.host=192.168.0.1
freeradius-domain-1.username=username
freeradius-domain-1.password=password

# freeradius-domain-2
freeradius-domain-2.port=22
freeradius-domain-2.host=192.168.0.2
freeradius-domain-2.username=username
freeradius-domain-2.password=password

# tomcat url
tomcat.host=127.0.0.1
tomcat.port=8080

# pcrf stuff
pcrf.enabled=true
pcrf.url=http://localhost:7070
pcrf.username=admin
pcrf.password=password

# pcrf mongodb connector
pcrf.mongodb.enabled=true
pcrf.mongodb.uri=mongodb://localhost:27017/pcrf

# wifi-customer-cab mongodb connector
wificab.mongodb.enabled=true
wificab.mongodb.uri=mongodb://localhost:27017/wifi-customer-cab

# Eltex.SORM2.replicator MongoDB 'sorm2' connect
sorm2.mongodb.enabled=false
sorm2.mongodb.uri=mongodb://localhost:27017/sorm2

# wifi-customer-cab request settings
wificab.timeout=90000

# Eltex.SORM2.replicator host to use API
sorm2.enabled=false
sorm2.url=http://localhost:7071
sorm2.username=admin
sorm2.password=password

#It enables records export to SORM3 while editing wifi users
sorm3.enabled=false

# ott mongodb connector
ott.mongodb.enabled=true
ott.mongodb.uri=mongodb://localhost:27017/ott

# metrics
metric.interval.s=900

#####
#####DB ELTEX_PORTAL settings#####
#####
portal.db.driver=com.mysql.jdbc.Driver
portal.db.url=jdbc:mysql://localhost:3306/ELTEX_PORTAL?
max_allowed_packet=32362048&useUnicode=true&characterEncoding=utf8
portal.db.username=javauser
portal.db.password=javapass

```

- [mongodb://localhost](#) [mongodb://ip_mongo_primary,ip_mongo_secondary](#) .
- [localhost](#) [<virtualip>](#) .
- [127.0.0.1](#) [<virtualip>](#) .

/etc/eltex-ngw/notification.properties

```
#Common gates settings
#Current gate used for each type (config name, for example smpp_gate.conf)
sms.gate.outgoing.sms.config=smsc_gate.conf
#For incoming sms/calls fields for numbers in configs should be set
sms.gate.incoming.sms.config=
sms.gate.incoming.call.config=

#Gate pool settings
sms.gate.pool.size=50
sms.gate.pool.wait.millis=5000

#Port to listen for requests
server.port=8040

#=====
#=====database settings=====
#=====
#mongodb.uri=mongodb://192.168.1.1,192.168.1.2:27017/notification-gw
mongodb.host=localhost
mongodb.port=27017
#mongodb.user=user
#mongodb.password=password
mongodb.name=notification-gw

#=====
#=====email settings=====
#=====
mail.smtp.submitter=test@email.com
mail.smtp.password=
mail.smtp.auth=true
mail.smtp.host=email.com
mail.smtp.port=587
mail.smtp.sendpartial=true
mail.smtp.starttls.enable=false
mail.smtp.connectiontimeout=5000
mail.gate.pool.size=20
mail.pool.wait.millis=10000
```

- `localhost ip_mongo_primary,ip_mongo_secondary` 19.

/etc/eltex-radius/local.conf

```
# Ports on which the server will listen
auth_port=1812
#acct_port=1813
inner_tunnel_port=18121

# MySQL database
db_host="localhost"
db_port=3306
db_login="radius"
db_password="radpass"
db_name="radius"

# MySQL 'wireless' database
wireless_db_host="localhost"
wireless_db_port=3306
wireless_db_login="javauser"
wireless_db_password="javapassword"
wireless_db_name="wireless"

# PCRF
# If you setting pcrf_enabled=0, then you also should enable accounting port listening in "default" server
pcrf_host="127.0.0.1"
pcrf_port=7080
pcrf_enabled=1

# EAP
ca_cert_name="local.pem"
tls_key_password="1234"

# Proxying
proxy_auth=0
proxy_domain_regex="^(.+\\.)?enterprise\\.root$"
proxy_host="127.0.0.1"
proxy_port=18121
proxy_secret="eltex"

# Ubiquiti vendor detection
ubi_vendor_regex="Apple|Ubiquiti"
vendor_group_enabled=1

# Settings of runtime NAS discovery
dynamic_clients=false
dynamic_client_subnet=192.168.0.0/16
dynamic_client_lifetime=3600
dynamic_client_rate_limit=false

# Proxy SSID (for example to eltex-eap-tls) #139679
proxy_ssid_enabled=0
proxy_ssid_value="EAP_TLS"
proxy_ssid_host="127.0.0.1"
proxy_ssid_port=18122
proxy_ssid_secret="eltex"
```

- localhost <virtualip> .
- 127.0.0.1 <virtualip> .

/etc/eltex-wifi-cab/system.xml

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<!DOCTYPE properties SYSTEM "http://java.sun.com/dtd/properties.dtd">
<properties>
  <entry key="mongoaddress">mongodb://localhost:27017/wifi-customer-cab</entry>
  <entry key="nbiaddress">http://localhost:8080/axis2/services/RadiusNbiService?wsdl</entry>
  <entry key="nbi.serviceLogin.user">softwlc_service</entry>
  <entry key="nbi.serviceLogin.password">softwlc</entry>
  <entry key="nbi.serviceLogin.requestTimeout.sec">120</entry>

  <!-- Bonnie or NBI -->
  <entry key="data.service.type">NBI</entry>
  <entry key="bonnie.service.host">localhost</entry>
  <entry key="bonnie.service.port">9070</entry>

  <!-- ,      eltex-auth-service -->
  <entry key="radius.auth.address">localhost</entry>
  <entry key="radius.auth.shareSecret">eltex</entry>
  <entry key="radius.auth.authPort">21812</entry>
  <entry key="radius.auth.acctPort">21813</entry>
  <entry key="radius.auth.timeout.sec">10</entry>
  <entry key="radius.auth.retries">5</entry>

  <!-- Support link -->
  <entry key="support.page.enabled">false</entry>
  <entry key="support.page.url">http://eltex-co.ru</entry>

  <!-- DPI link -->
  <entry key="dpi.page.enabled">false</entry>
  <entry key="dpi.page.url">https://filter.wifi.rt.ru</entry>

  <!-- SSO Settings -->
  <entry key="sso.enabled">false</entry>
  <entry key="sso.redirectUri">http://localhost:8080/wifi-cab/sso</entry>
  <entry key="sso.clientSecret"></entry>
  <entry key="sso.clientId"></entry>

  <!-- SSO Auth -->
  <entry key="sso.auth.server.protocol">http</entry>
  <entry key="sso.auth.server.address"></entry>
  <entry key="sso.auth.server.port">80</entry>

  <entry key="sso.auth.auth.path">/auth/realms/b2b/protocol/openid-connect/auth</entry>
  <entry key="sso.auth.logout.path">/auth/realms/b2b/protocol/openid-connect/logout</entry>

  <!-- SSO REST -->
  <entry key="sso.rest.server.protocol">http</entry>
  <entry key="sso.rest.server.address"></entry>
  <entry key="sso.rest.server.port">80</entry>
  <entry key="sso.rest.server.timeout.sec">10</entry>
  <entry key="sso.rest.protocol.version">2.0</entry>
  <entry key="sso.rest.username"></entry>
  <entry key="sso.rest.password"></entry>

  <entry key="sso.rest.getToken.path">/apiman-gateway/b2b_test/getToken</entry>
  <entry key="sso.rest.getUserInfo.path">/apiman-gateway/b2b_test/getUserInfo</entry>
  <entry key="sso.rest.addUser.path">/apiman-gateway/b2b_test/addUser</entry>
  <entry key="sso.rest.updateUser.path">/apiman-gateway/b2b_test/updateUser</entry>
  <entry key="sso.rest.delUser.path">/apiman-gateway/b2b_test/delUser</entry>
  <entry key="sso.rest.addUserParam.path">/apiman-gateway/b2b_test/addUserParam</entry>
  <entry key="sso.rest.delUserParam.path">/apiman-gateway/b2b_test/delUserParam</entry>
  <entry key="sso.rest.getUserByName.path">/apiman-gateway/b2b_test/getUserByName</entry>
  <entry key="sso.rest.resetPassword.path">/apiman-gateway/b2b_test/resetPassword</entry>
  <entry key="sso.rest.getUserByParam.path">/apiman-g
```

- [mongodb://localhost](#) [mongodb://ip_mongo_primary,ip_mongo_secondary](#) 4.
- [localhost](#) [<virtualip>](#) .

/usr/lib/eltex-ems/conf/config.txt

```
# DB Event
poolName1=event
event.jdbc.driver=org.gjt.mm.mysql.Driver
event.jdbc.dbUrl=jdbc:mysql://localhost/eltex_alert?
useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=5000
event.jdbc.username=javauser
event.jdbc.password=javapassword
event.jdbc.maxPoolSize=32
event.jdbc.inUse=yes
# remote db host access with su privileges
# event.ssh.login=
# event.ssh.password=
# event.ssh.port=

# DB Tree
poolName2=tree
tree.jdbc.driver=org.gjt.mm.mysql.Driver
tree.jdbc.dbUrl=jdbc:mysql://localhost/eltex_ems?
useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=5000&noAccessToProcedureBodies=true
tree.jdbc.username=javauser
tree.jdbc.password=javapassword
tree.jdbc.maxPoolSize=20
tree.jdbc.inUse=yes

# DB Ont
poolName3=ont
ont.jdbc.driver=org.gjt.mm.mysql.Driver
ont.jdbc.dbUrl=jdbc:mysql://localhost/eltex_ont?
useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=5000
ont.jdbc.username=javauser
ont.jdbc.password=javapassword
ont.jdbc.maxPoolSize=40
ont.jdbc.inUse=yes

# DB Syslog
poolName4=syslog
syslog.jdbc.driver=org.gjt.mm.mysql.Driver
syslog.jdbc.dbUrl=jdbc:mysql://localhost/Syslog?
useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=5000
syslog.jdbc.username=javauser
syslog.jdbc.password=javapassword
syslog.jdbc.maxPoolSize=4
syslog.jdbc.inUse=yes
# remote db host access with su privileges
# syslog.ssh.login=
# syslog.ssh.password=
# syslog.ssh.port=

# DB acsmain (alias=cpe)
poolName5=cpe
cpe.jdbc.driver=org.gjt.mm.mysql.Driver
cpe.jdbc.dbUrl=jdbc:mysql://localhost/acsmain?
useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=5000
cpe.jdbc.username=javauser
cpe.jdbc.password=javapassword
cpe.jdbc.maxPoolSize=2
cpe.jdbc.inUse=yes

# DB acscmds (alias=cmds)
poolName6=cmds
cmds.jdbc.driver=org.gjt.mm.mysql.Driver
cmds.jdbc.dbUrl=jdbc:mysql://localhost/acscmds?
useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=5000
cmds.jdbc.username=javauser
cmds.jdbc.password=javapassword
```

```

cmds.jdbc.maxPoolSize=2
cmds.jdbc.inUse=yes

# DB  acsinf(alias=inf)
poolName7=inf
inf.jdbc.driver=org.gjt.mm.mysql.Driver
inf.jdbc.dbUrl=jdbc:mysql://localhost/acsinf?
useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=5000
inf.jdbc.username=javauser
inf.jdbc.password=javapassword
inf.jdbc.maxPoolSize=2
inf.jdbc.inUse=yes

# DB  acscache(alias=cache)
poolName8=cache
cache.jdbc.driver=org.gjt.mm.mysql.Driver
cache.jdbc.dbUrl=jdbc:mysql://localhost/acscache?
useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=5000
cache.jdbc.username=javauser
cache.jdbc.password=javapassword
cache.jdbc.maxPoolSize=2
cache.jdbc.inUse=yes

# DB  radius(alias=radius)
poolName9=radius
radius.jdbc.driver=org.gjt.mm.mysql.Driver
radius.jdbc.dbUrl=jdbc:mysql://localhost/radius?
useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=5000
radius.jdbc.username=javauser
radius.jdbc.password=javapassword
radius.jdbc.maxPoolSize=40
radius.jdbc.inUse=yes
# remote db host access with su privileges
# radius.ssh.login=
# radius.ssh.password=
# radius.ssh.port=

# ----- SSID -----
# DB  wireless (alias=wireless)
poolName10=wireless
wireless.jdbc.driver=org.gjt.mm.mysql.Driver
wireless.jdbc.dbUrl=jdbc:mysql://localhost/wireless?
useUnicode=true&characterEncoding=utf8&relaxAutoCommit=true&connectTimeout=5000
wireless.jdbc.username=javauser
wireless.jdbc.password=javapassword
wireless.jdbc.maxPoolSize=30
wireless.jdbc.inUse=yes

# memcached server address
#memcached_server_ip_port=127.0.0.1:11211

```

localhost <virtualip> 4, 17, 26, 35, 48, 57, 66, 75, 84, 98.

GUI

SoftWLC .

Wi-Fi

PCRF URL, URL NGW- URL localhost ip:-

Стартовая

Статистика провайдера

Статистика SMS

Статистика Hotspot

Статистика Enterprise

Сервисы и тарифы

Пользователи Wi-Fi

Точки доступа

Журнал событий

Беспроводные сети

Операции по расписанию

Отчеты

Конструктор порталов

Hot WiFi

Настройки

Система

Дерево доменов

Системные пользователи

Системные роли

Серверные адреса

RADIUS клиенты

Сохранить

Система

Интеграция

Таблицы

Уведомления

Уведомления клиентам B2B

Клиентские настройки

PCRF URL

http://localhost:7070

URL NGW-клиента

http://localhost:8040

URL конструктора порталов

http://172.27.1.18:8080/epadmin/

☐

Выключить проверку сертификатов

Адрес личного кабинета рекламной площадки

https://cp.hot-wifi.ru/login

localhost ip- :

Конструктор порталов

Версия: 1.8-399 (20.10.17 15:25:22)

Стартовая страница

Галерея изображений

Системные настройки

Конструктор порталов

Уведомления

Доступ к NBI

Доступ к NGW

Взаимодействие с BRAS

БД платежей

Доступ к PCRF


Личный кабинет

Вход через ЕСИА

Личный кабинет

Порталы


Системные настройки

Русский  admin

Заголовок страницы

Eltex WiFi Portal Administrator console

Значок (favicon)



Изменить

Время сессии (мин)

60

Хост портала

localhost

Порт портала

8080

Сохранить

NBI

Конструктор порталов
Версия: 1.8-399 (20.10.17 15:25:22)

Стартовая страница

Галерея изображений

Системные настройки ▾

Конструктор порталов

Уведомления

Доступ к NBI

Доступ к NGW

Взаимодействие с BRAS

БД платежей

Доступ к PCRF


Личный кабинет

Вход через ЕСИА

Личный кабинет

Порталы

Доступ к NBI

Русский  admin ▾

Протокол

Хост

Порт

Путь к WSDL

Имя пользователя

Пароль

Сохранить

HTTP

localhost

8080

/axis2/services/RadiusNbiService?wsdl

softwlc_service

.....

NGW

Конструктор порталов
Версия: 1.8-399 (20.10.17 15:25:22)

Стартовая страница

Галерея изображений

Системные настройки ▾

Конструктор порталов

Уведомления

Доступ к NBI

Доступ к NGW

Взаимодействие с BRAS

БД платежей

Доступ к PCRF


Личный кабинет

Вход через ЕСИА

Личный кабинет

Порталы

Доступ к NGW

Русский  admin ▾

Хост

Порт

Сохранить

localhost

8040

PCRF

Конструктор порталов

Версия: 1.8-399 (20.10.17 15:25:22)

Стартовая страница

Галерея изображений

Системные настройки ▾

Конструктор порталов

Уведомления

Доступ к NBI

Доступ к NGW

Взаимодействие с BRAS

БД платежей

Доступ к PCRF


Личный кабинет

Вход через ЕСИА

Личный кабинет

Порталы

Доступ к PCRF

Русский  admin ▾

Хост

localhost

Порт

7070

Сохранить

EMS-GUI

EMS localhost (127.0.0.1) ip- :

pcrf

GenericAp

dhcp

esr

gPon

gePon

linuxServerCommon

lte

ltf

ma4000

mes

mes3000L

mes5448

monitoring

msan

msr

mxa

mxl2e

mysql

pcrf

plc8

ponCommon

portal

radius

Действия

Сбросить

Сбросить все

Редактирование параметров модулей

Включен

☒

URL

http://localhost:7070

Таймаут соединения, с

11

Таймаут чтения/записи, с

11

Принять

Отменить

radius

Редактирование параметров модулей

GenericAp	RADIUS service name	eltex-radius
dhcp	'Secret' for localhost	eltex
esr	EMS host ip-address as RADIUS client	127.0.0.1
gPon	Restart timeout	45
gePon	Min. restart interval	60
linuxServerCommon		
lte		
ltp		
ma4000		
mes		
mes3000L		
mes5448		
monitoring		
msan		
msr		
mx4		
mxl2e		
mysql		
pcrf		
plc8		
ponCommon		
portal		
radius		
sbc		
smg		
softwlc.nbi		

Действия

Сбросить

Сбросить все

Принять Отменить

softwlc.nbi

Редактирование параметров модулей

GenericAp	Enabled	<input checked="" type="checkbox"/>
dhcp	URL	http://172.27.1.18:8080/axis2/services/RadiusNbiService?wsdl
esr	Username	admin
gPon	Password	password
gePon	Connection timeout, s	30
linuxServerCommon	Request timeout, s	120
lte		
ltp		
ma4000		
mes		
mes3000L		
mes5448		
monitoring		
msan		
msr		
mx4		
mxl2e		
mysql		
pcrf		
plc8		
ponCommon		
portal		
radius		
sbc		
smg		
softwlc.nbi		
sorm2		
ssw		
system		

Действия

Сбросить

Сбросить все

Принять Отменить

system

Редактирование параметров модулей

GenericAp	Язык интерфейса и системных сообщений	ru_RU
dhcp	IP адрес EMS сервера в управляющей сети станций	172.27.1.18
esr	Каталог временных файлов	/tmp/ems
gPon	Tomcat URL	http://172.27.1.18:8080
gePon	Внутренний TOMCAT URL	http://172.27.1.18:8080
linuxServerCommon	Каталог общих файлов	/var/ems-data
lte	Каталог временных файлов БД	/tmp
ltp	Дополнительные команды	
ma4000	Уровень логирования работы мониторов	ERROR
mes	Посылать SNMP предзапрос 'Контроль доступности'	<input checked="" type="checkbox"/>
mes3000L	Таймаут операции SNMP предзапроса, мс	300
mes5448	Копировать принятые трапы в Syslog	<input type="checkbox"/>
monitoring	Сохранять дату автоматического закрытия аварии в БД	<input type="checkbox"/>
msan	Размер очереди для менеджера асинхронных задач	60
msr	Время хранения записей в списке 'Задачи', часов	24
mxa	Опрос доступности (ICMP, SNMP ping)	<input checked="" type="checkbox"/>
mxl2e	Период опроса устройства (ICMP, SNMP), сек.	60
mysql	Размер пула обработчиков опроса доступности	256
pcrf	Период хранения результатов ICMP, SNMP запросов, сек	7200
plc8	Таймаут проверки GUI сессии в состоянии 'Создана', сек	121
ponCommon		
portal		
radius		
sbc		
smg		
softwlc.nbi		
sorm2		
ssw		
system		
tau		
tftpserver		
tl1		

Действия

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tftpserver

Редактирование параметров модулей

monitoring	IP адрес для станционных устройств	172.27.1.18
msan	Порт (для встроенного TFTP)	69
msr	Корневой каталог службы	/tftpboot
mxa	Подкаталог станционного ПО	station_images
mxl2e	Подкаталог файлов конфигураций	ems
mysql	Трассировка взаимодействия	<input type="checkbox"/>
pcrf	Включить встроенный TFTP сервер	<input type="checkbox"/>
plc8		
ponCommon		
portal		
radius		
sbc		
smg		
softwlc.nbi		
sorm2		
ssw		
system		
tau		
tftpserver		
tl1		
topgate		
uep		
voipCommon		
wep		
wirelessCommon		
wop		

Действия

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