

X-Road

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101

ee-test/GOV/70007446/hksos/ambulanceResourcesV2/v1

keskkond/asutuse-tüüp/reg-kood/alamsüsteem/teenuse-nimi/teenuse-ver

Attachment(s) / Manus

soapi manust pole kunagi salvestatud, ainult soap body, või rest body

soap manus ei ela mitte kusagil seda ei salvestata, ja pole kunagi salvestatud. See on by design nii ,et soapi manusest jääb vaid hash signatuuri sees ☐☐

kui turvik saadab sõnumi, siis võib olla korraks paneb tmp kausta, ja siis suunab kasutajale edasi ja see manus kustub igavesti

Errors

Server.ClientProxy.SslAuthenticationFailed

Service provider did not send correct authentication certificate

Klient annab teada et teenuse turvikuga ei õnnestu handshake teha sest ei tule teenusepakkuja poolt auth serti

Server.ServerProxy.ServiceFailed.HttpError>

Server responded with error 403: Forbidden

Võrgumure, nt LB ei luba päringul teenuse poole pöörduda

Server.ServerProxy.ServiceFailed.MissingHeaderField

Required field protocolVersion is missing

teenus tagastab päringu vastuse ilma protocolVersion elemendita

java.lang.OutOfMemoryError: Java heap space

<https://confluence.niis.org/pages/viewpage.action?pageId=4292877>

Error 403 Forbidden

Teie turvaserverile ei ole ajatempliteenust avatud ehk kas puudub leping või ei ole teenusepakkuja lubanud Teie turvaserveri IP-d ehk puudub teenusele ligipääs.

Error 503

HTTP veakood 503 tähendab, et teenus ei ole kättesaadav.

Server.ServerProxy.ServiceFailed.InvalidContentType: Invalid content type: text/html

Teenus vastas turvaserverile mingi sodiga, st mitte xml. Teenusega on midagi valesti

Server.ServerProxy.ServiceFailed.HttpError, Server responded with error 404: Not Found

Tähendab, et teenus on maas, mingi vale seadistus teenuses, pole õige url äkki.

Server.ServerProxy.ServiceFailed.IOException: Read timed out

Teenus annab timeouti, st teenus ei vasta turvikule

Server responded with error 502: Bad Gateway

Teenuse poolne viga. Kontrollida teenust ja selle toimimist

soap:Server Internal error

Teenuse poolne viga

Server.ServerProxy.ServiceFailed.HttpError Server responded with error 302

teenuse endpoint url vale, redirectib valesse kohta LB-st. url vajab vb / lõppu

Force restore conf backup

X-Road 7 force restore conf backup

Meant to be used on uninitialized ss and not in cluster

From old ss

- take conf backup

- get UID from (UID is for ex. ee-dev/GOV/70009770/tehik_dev)

```
cat /etc/xroad/gpghome/openpgp-revocs.d/<-SOME-NUMBERS->.rev | grep uid
```

On new ss slave(s)

```
/usr/share/xroad/scripts/generate_gpg_keypair.sh /etc/xroad/gpghome <-UID->
```

On new ss master

```
/usr/share/xroad/scripts/generate_gpg_keypair.sh /etc/xroad/gpghome <-UID->
su xroad
/usr/share/xroad/scripts/restore_xroad_proxy_configuration.sh -f /tmp/ss-automatic-backup-
2022_03_08_031501.gpg -F -N
```

Create cluster

https://github.com/nordic-institute/X-Road/blob/develop/doc/Manuals/ug-ss_x-road_6_security_server_user_guide.md#132-restore-from-the-command-line

Increasing open files limit

Increasing xroad-proxy open file limits w/o host restart (temporary solution)

```
prlimit --pid <xroad-proxy-PID> --nofile=10000:30000
```

Increasing xroad-proxy open file limits

```
su - xroad
```

```
prlimit --pid <xroad-proxy-PID>
```

```
/etc/security/limits.conf
```

```
xroad soft nofile 10000
```

```
xroad hard nofile 30000
```

```
/lib/systemd/system/xroad-proxy.service
```

```
LimitNOFILE=10000
```

```
systemctl daemon-reload
```

```
service xroad-proxy restart
```

Install specific version of xroad

List available versions and pick Your poison

```
apt policy xroad-securityserver 2>/dev/null
```

Export version as env, for ex

```
export CANDIDATE=7.3.2-1.ubuntu22.04
```

Install

```
apt-get install xroad-addon-hwtokens="$CANDIDATE" \  
xroad-addon-messagelog="$CANDIDATE" \  
xroad-addon-metaservices="$CANDIDATE" \  
xroad-addon-opmonitoring="$CANDIDATE" \  
xroad-addon-proxymonitor="$CANDIDATE" \  
xroad-addon-wsdlvalidator="$CANDIDATE" \  
xroad-base="$CANDIDATE" \  
xroad-confclient="$CANDIDATE" \  
xroad-database-local="$CANDIDATE" \  
xroad-monitor="$CANDIDATE" \  
xroad-opmonitor="$CANDIDATE" \  
xroad-proxy="$CANDIDATE" \  
xroad-proxy-ui-api="$CANDIDATE" \  
xroad-securityserver="$CANDIDATE" \  
xroad-securityserver-ee="$CANDIDATE" \  
xroad-signer="$CANDIDATE"
```


Links

X-tee kataloog - <https://x-tee.ee/catalogue>

Info - <https://abi.ria.ee>

NIIS Github - <https://github.com/nordic-institute/X-Road>

RIA Github X-Road scripts - <https://github.com/ria-ee/X-Road-scripts>

Päringuid testimiseks - <https://abi.ria.ee/xtee/et/turvaserveri-haldus/soap-paeringud-testimiseks>

Epoch timestamp converter - <https://www.unixtimestamp.com>

SK test certificate upload - https://demo.sk.ee/upload_cert/index.php

MessageLog Database info

<https://moodle.ria.ee/mod/page/view.php?id=694>

```
psql -h 127.0.0.1 -U messageLog <password from /etc/xroad/db.properties>
```

Kui palju kirjeid on tabelis

```
select count( *) from logrecord;
```

Milline on kõige vanem sõnumilogi kirje baasis

```
select to_timestamp(min( time ))::float/1000 from logrecord;
```

Kui palju on ajatembedamata sõnumeid

```
select count(1) from logrecord where discriminator::text = 'm'::text and signaturehash is not null;
```

Viimane ajatembeldamata sõnum

```
select to_timestamp(min(time)::float/1000) from logrecord where discriminator::text = 'm'::text and  
signaturehash is not null;
```

Kui palju on ajatembeldatud aga arhiveerimata sõnumeid

```
select count(1) from logrecord where timestamprecord in (select id from logrecord where discriminator::text =  
't'::text and archived = false);
```

Viimane ajatembeldatud aga arhiveerimata sõnum

```
select to_timestamp(min(time)::float/1000) from logrecord where timestamprecord in (select id from logrecord  
where discriminator::text = 't'::text and archived = false);
```

Size of the largest row in logrecord table

```
select t.id, t.archived, (pg_column_size(t.message)) as size from logrecord t where message IS NOT NULL order  
by size desc;
```


MISP2

If base package is upgraded, port 8080 conf will be defaulted

Uncomment port 8080 in `/var/lib/tomcat8/conf/server.xml`

Remote database upgrade

```
psql -h <database-ip> -p <database-port> -U postgres -d misp2db -f insert_xslt.sql
```

When was MISP2 upgraded to newer version

```
ls -t /var/log/dpkg* | xargs zgrep "upgrade xtee-misp2-application"
```

Admintool needs to be run as admin

```
/usr/xtee/app/admintool.sh
```

Conf

```
/var/lib/tomcat8/webapps/misp2/WEB-INF/classes/config.cfg
```

java.lang.OutOfMemoryError: Java heap space - increasing memory

Open `/etc/default/tomcat8` and increase `MaxPermSize=`

misp apteegikood tuleb rets teenusest. add/edit = tervisekassa

Apteekrikoodi registreerimiseks peab pöörduma Tervisekassa poole, kes haldab 'rets' andmekogu teenuseid.

Op-mon to use one IP and daemon within a cluster

1) make sure, slave nodes -> master node can connect over port 2080

2) on master node, add to /etc/xroad/conf.d/local.ini

```
[op-monitor]  
host = <master-internal-IP>
```

3) on master node

```
service xroad-proxy restart
```

4) on slave nodes

```
service xroad-proxy restart
```

```
service xroad-opmon stop
```

```
service xroad-opmon mask
```

REST examples

listMethods

```
curl -X GET -H "accept: application/json" -H "X-Road-Client: ee-dev/GOV/70008799/pohak"
"http://10.0.13.90/r1/ee-dev/GOV/70008799/pohak/listMethods" | json_pp
```

HTTPS with cert and key

```
curl --cert nextcloud.bgp.12.berylia.org_cert.crt --key nextcloud.bgp.12.berylia.org_key.crt -X GET -H "accept:
application/json" -H "X-Road-Client: BERYLIA/GOV/1003/recon" "https://xroad-
securityserver.bgp.12.berylia.org/r1/BERYLIA/GOV/1002/satellite/listMethods" | json_pp
```

getOpenAPI

```
curl -k -X GET -H "accept: application/json" -H "X-Road-Client: ee-dev/GOV/70008799/pohak"
"https://10.0.13.90/r1/ee-dev/GOV/70008799/pohak/getOpenAPI?serviceCode=adverse-event" | json_pp
```

POST

```
curl -k -X POST "https://10.0.14.26/r1/ee-test/GOV/70001969/tookeskk/digitaalne_teatis/api/v1/digitaalne_teatis"
-H "accept: application/json" -H "Content-Type: application/json" -H "X-Road-Client: ee-
test/GOV/70001969/tookeskk" \
--data '{
  "noticeId": "",
  "employeeIdCode": "",
  "employeeFirstName": "",
  "employeeLastName": "",
  "employeePhone": ""
}'
```

More help: https://x-tee.ee/docs/live/xroad/pr-rest_x-road_message_protocol_for_rest.html#64-post-request-and-response

rm -rf

```
apt purge --remove -y xroad-addon-hwtokens xroad-addon-messagelog xroad-addon-metaservices xroad-  
addon-opmonitoring xroad-addon-proxymonitor xroad-addon-wsdlvalidator xroad-base xroad-  
confclient xroad-database-local xroad-monitor xroad-opmonitor xroad-proxy xroad-  
proxy-ui-api xroad-securityserver-ee xroad-securityserver xroad-signer
```

```
apt purge --remove -y postgresql postgresql-10 postgresql-client-10 postgresql-client-common postgresql-  
common postgresql-contrib
```

```
apt purge --remove -y rsyslog auditd && rm -rf /etc/rsyslog.d/* && rm -rf /etc/audit/rules.d/*
```

```
apt autoclean -y && apt autoremove -y
```

```
userdel -r xroad
```

```
userdel -r xroad-slave
```

```
rm -rf /etc/xroad /var/lib/xroad /etc/xroad /etc/xroad.properties /usr/share/xroad /var/lib/xroad /var/log/xroad  
/var/tmp/xroad /etc/cron.d/xroad* /etc/systemd/system/xroad*  
/etc/zabbix/zabbix_agent2.d/userparameter_xroad* /etc/logrotate.d/xroad*
```

Testpäring

```
<?xml version="1.0" encoding="utf-8"?>
<SOAP-ENV:Envelope
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xroad="http://x-road.eu/xsd/xroad.xsd"
  xmlns:id="http://x-road.eu/xsd/identifiers">
  <SOAP-ENV:Header>
    <xroad:client id:objectType="SUBSYSTEM">
      <id:xRoadInstance>EE</id:xRoadInstance>
      <id:memberClass>GOV</id:memberClass>
      <id:memberCode>70009770</id:memberCode>
      <id:subsystemCode>digilugu</id:subsystemCode>
    </xroad:client>
    <xroad:service id:objectType="SERVICE">
      <id:xRoadInstance>EE</id:xRoadInstance>
      <id:memberClass>GOV</id:memberClass>
      <id:memberCode>70009770</id:memberCode>
      <id:subsystemCode>digilugu</id:subsystemCode>
      <id:serviceCode>listMethods</id:serviceCode>
    </xroad:service>
    <xroad:id>{{v4uuid}}</xroad:id>
    <xroad:protocolVersion>4.0</xroad:protocolVersion>
  </SOAP-ENV:Header>
  <SOAP-ENV:Body>
    <xroad:listMethods/>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

```
curl -v -d @req.xml -o resp.xml -H "Content-type: text/xml; charset=UTF-8" http://TURVASERVER
```

Peale päringu tegemist piiluda resp.xml sisse, et näha päringu vastust

Timeouts

client-httpclient-timeout default=0

The maximum time (SO_TIMEOUT, in milliseconds) that connections from a service consuming security server to a service providing security server are allowed to wait for a response before the consumer end httpclient gives up. Value of 0 means that an infinite wait time is allowed

ma ütleks, et vaikimisi see polegi piiratud

kui turvikud loovad omavahel ühenduse, siis oodatakse seni, kuni üks pool loobub (timeouti pole).
Vaikimisi producer ootab producer IS vastust 60sekundit, mida saab muuta producer admin UI-st

Tips & Tricks

When was xroad-securityserver package last upgraded

```
ls -t /var/log/dpkg* | xargs zgrep "upgrade xroad-securityserver"
```

Editing keyconf

1. On master node, stop xroad-signer process
2. Edit keyconf
3. On master node, start xroad-signer process
4. Restart xroad-signer on slave nodes

Grep packet loss

```
cat /var/log/xroad/*.log|grep -v "org.eclipse.jetty.io.EOFException: null"|wc -l
```

Time opmonitor database read

```
time echo "select count(id) from operational_data;" | psql -h 127.0.0.1 -U opmonitor -W op-monitor
```

Keyconfist välja parseda serdid normaliseeritud kujul

```
cat /etc/xroad/signer/keyconf.xml | python -c "exec(\"import sys, xml.etree.ElementTree as
ET\nroot=ET.fromstring(sys.stdin.read())\nfor cert in root.findall('.//cert/contents'):\n print '-----BEGIN
CERTIFICATE-----\\n'+str('\\\\n').join([cert.text[i:i+64] for i in range(0, len(cert.text), 64)]+'\\\\n-----END
CERTIFICATE-----\\n')")"
```

Logback location

```
/etc/xroad/conf.d/
```

Global conf location in ss

```
/etc/xroad/globalconf/<environment>/shared-params.xml
```

List xroad services status

```
systemctl list-units "xroad*"
```

Stop all xroad processes

```
systemctl stop xroad-*
```

Environmental monitoring

is the monitoring of the X-Road environment: details of the security servers such as operating system, memory, disk space, CPU load, running processes and installed packages, etc.

Operational monitoring

is the monitoring of operational statistics such as which services have been called, how many times, what is the average response time, etc.

Count proxy open files

```
ls -l | grep xroad-proxy.service | wc -l
```

Upgrade procedure

https://www.x-tee.ee/docs/live/xroad/ig-xlb_x-road_external_load_balancer_installation_guide.html#72-online-rolling-upgrade

Enable maintenance mode(run from security server)

```
curl http://localhost:5566/maintenance?targetState=true
```

Watch connections and wait until all requests are finished

```
watch -n1 ss -tn state established sport = :5500 or dport = :5500
```

Make snapshot of machine

Unhold xroad packages

```
apt-mark unhold xroad-*
```

Update package list

```
apt update
```

Upgrade xroad packages

```
apt install xroad-securityserver-ee
```

Hold xroad packages

```
apt-mark hold xroad-*
```

Disable maintenance mode(run from security server)

```
curl http://localhost:5566/maintenance?targetState=false
```

WSDL validator

From Security Server CLI

```
/usr/share/xroad/wsdvalidator/bin/wsdvalidator_wrapper.sh tam6.wsdl
```

```
/usr/share/xroad/wsdvalidator/bin/wsdvalidator_wrapper.sh http://10.13.24.14/adapter/tam6.wsdl
```

Security Server uses Apache CXF wsdvalidator

<https://github.com/nordic-institute/X-Road/blob/develop/src/addons/wsdvalidator/build.gradle#L22>

<https://cxf.apache.org/docs/wsdvalidator.html>

<https://github.com/nordic-institute/wsdvalidator>

X-tee kataloog

Viga OpenAPI kirjelduse laadimisel või töötlemisel

Kontrollida üle "content-type HTTP header". Peaks vastama openapi kirjelduse formaadile, kas siis json või yaml, nt "application/json" või "application/yaml"

Kataloogi uuendatakse iga 1h tagant