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# Digidoc Open-EID - Installation instructions for Debian 9 Stretch

*Release 1.4.0*

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This note shows how to install the [Estonian Electronic Identity Software](#) on Debian 9.

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**Important:** Update 20180621: Ria does not maintain the *zesti* binaries any more. Therefore I replaced the link in script to *xenial* instead. Although there are no dependency clashes on my system, I do not have the time to test a fresh install now. Feedback is appreciated.

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## 1 ID-software – what’s this?

ID-software allows you to use your ID-card electronically – use private and governmental e-services, digitally sign documents and encrypt documents for safe transfer.

During ID-software installation 3 programs are installed into your computer: ID-card utility, DigiDoc3 client and DigiDoc3 crypto.

With ID-card utility you can check the functioning of your ID-card and certificate validity, change PIN and PUK codes. The ID-card utility window displays the ID-card owner’s data and ID-card validity data. This information is constantly visible when ID-card utility is running. ID-card utility enables you to perform actions with certificates (extend them, change and unblock PIN codes and PUK code), configure @eesti.ee email address.

## 2 Installation

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**Tip:** The installer script will automatically install a plugin for Firefox-ESR. The plugin works out of the box with Firefox 57 Quantum.

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1. Download the installer [script](#).
2. Edit the script

Replace:

```
case $codename in
  wheezy)
    add_repository trusty
  *)
    make_fail "Debian $codename is not officially supported"
  ;;
```

With:

```
case $codename in
  wheezy)
    add_repository trusty
    ;;
  stretch)
    add_repository xenial
    ;;
  *)
    make_fail "Debian $codename is not officially supported"
  ;;
```

3. Download [libssl1.0.0](#) for your architecture (scroll down)
4. Install *libssl1.0.0*:

```
sudo dpkg -i libssl1.0.0_1.0.1t-1+deb8u5_amd64.deb
```

(your exact package name might be different).

5. Run the modified installation script<sup>1</sup>

```
chmod 755 install-open-eid.sh
./install-open-eid.sh
```

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**Note:** The [source code](#) of the Estonian ID software is hosted on Github.

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<sup>1</sup> The script creates the file */etc/apt/sources.list.d/ria-repository.list* with the following content:

```
deb https://installer.id.ee/media/ubuntu/ xenial main
```

Then it imports the repository key and runs *apt-get update* and *apt-get install open-eid*.

### 3 Check the installation

Among other things the installer script installs a meta package `open-eid` which installs `chrome-token-signing`, `firefox-pkcs11-loader`, `libdigidoc-tools`, `libdigidocpp-tools`, `libnss3-tools`, `qdigestoc-tera` and `qdigestoc4`. These packages also depend on other packages and install them.

To check if the Digidoc Open-EID extensions are properly installed in *Firefox Quantum*, open in the main menu: Tools->Add-ons->extensions.

Here you should see two extensions loaded:

- Firefox PKCS11 loader (Configures Firefox to use PKCS11 for authentication)
- Token signing (Use your eID smart card on the web)

### 4 Troubleshooting

#### Update 2018-06-21:

Ria does not maintain the `zesti` binaries any more. Therefore I replaced the link in script to `xenial` instead. Although there are no dependency clashes on my system, I do not have the time to test a fresh install now. Feedback is appreciated.

#### Update 2018-12-12:

##### 1. Bugreport

During the last update of the package `AWP` to version `5.3.0.16.04.130` on my Debian 9 machine, I experienced the following problem:

```
# apt upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
2 not fully installed or removed.
After this operation, 0 B of additional disk space will be used.
Do you want to continue? [Y/n]
Setting up awp (5.3.0.16.04.130) ...
Adding smartcard support in Google Chrome ...
dpkg: error processing package awp (--configure):
 subprocess installed post-installation script returned error exit_
↪status 1
dpkg: dependency problems prevent configuration of open-eid:
 open-eid depends on awp; however:
  Package awp is not configured yet.

dpkg: error processing package open-eid (--configure):
 dependency problems - leaving unconfigured
Errors were encountered while processing:
 awp
 open-eid
E: Sub-process /usr/bin/dpkg returned an error code (1)
```

##### 2. Here my workaround

1. Disable the `postinst` execution:

```
echo '#!/bin/sh' | sudo tee /var/lib/dpkg/info/awp.postinst
```

2. Extract the binaries:

```
sudo apt install awp
```

3. Extract the file `postinst` from the debian package `awp_5.3.0.16.04.130_amd64.deb` you will find in `/var/cache/apt/archives`:

```
cd /var/cache/apt/archives
cp awp_5.3.0.16.04.130_amd64.deb /tmp
cd /tmp
ar x awp_5.3.0.16.04.130_amd64.deb
tar -xzf control.tar.gz
```

If the above seems to complicated, here the content of `postinst`. Create a file named `postinst` and copy the content there.

```
#!/bin/bash

NSSDB=$HOME/.pki/nssdb
MODUTIL="/usr/bin/modutil -force -dbdir sql:$NSSDB"
CERTUTIL="/usr/bin/certutil -d sql:$NSSDB"
LIBFILE=/usr/local/AWP/lib/libOcsPKCS11Wrapper.so

if [ -n "`which apt-get`" ];
then
    sudo apt-get -y install libnss3-tools 2>/dev/null
fi
if [ -n "`which yum`" ];
then
    sudo yum install libnss3-tools 2>/dev/null
fi

echo "Adding smartcard support in Google Chrome ..."

if [ ! -f $NSSDB/cert9.db ]; then
    echo "Initializing new database"
    sudo -i -u $SUDO_USER mkdir -p $HOME/.pki
    sudo -i -u $SUDO_USER mkdir -p $NSSDB
    sudo -i -u $SUDO_USER $CERTUTIL -N --empty-password
fi

if [ -f $LIBFILE ]; then
    sudo -i -u $SUDO_USER $MODUTIL -delete idemia-pkcs11 2>/
↪dev/null
    sudo -i -u $SUDO_USER $MODUTIL -add idemia-pkcs11 -
↪libfile $LIBFILE -mechanisms FRIENDLY 2>/dev/null
    exit
fi
```

4. and execute it manually as normal user (not as root):

```
./postinst
Reading package lists... Done
```

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```
Building dependency tree
Reading state information... Done
libnss3-tools is already the newest version (2:3.26.2-1.1+deb9u1).
libnss3-tools set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
2 not fully installed or removed.
After this operation, 0 B of additional disk space will be used.
Setting up awp (5.3.0.16.04.130) ...
Adding smartcard support in Google Chrome ...
Module "idemia-pkcs11" added to database.
Setting up open-eid (18.12.0.1815-1604) ...
Adding smartcard support in Google Chrome ...
```

Read more *here* <<https://github.com/open-eid/DigiDoc4-Client/issues/435>> and *here* <<https://github.com/open-eid/linux-installer/issues/37>>.

## Update 15.1.2019

### 1. Bugreport

After a recent system-upgrade qdigidoc4 does not start and emits the following error message:

```
$ qdigidoc4
Cache configuration serial: 82
Bundled configuration serial: 79
QObject: Cannot create children for a parent that is in a different
↳ thread.
(Parent is QSigner(0x19b4360), parent's thread is QThread(0x183d400),
↳ current thread is QSigner(0x19b4360)
qdigidoc4: symbol lookup error: /usr/lib/x86_64-linux-gnu/
↳ libdigidocpp.so.1: undefined symbol: _ZN11xalan_1_
↳ 1114XPathEvaluator10initializeERN11xercesc_3_113MemoryManagerE
```

### 2. Cause

The upgraded package libxml-security-c requires a specific version of libxalan-c111!

The *version 1.7.3-IRIAI* of libxml-security-c pulls libxalan-c111, but the latter mustn't be too recent! On my debian 9 system libxalan-c111 *version 1.11-6* works well, but *version 1.11-9~bpo9+1* does not.

### 3. Solution

Downgrade the package libxalan-c111:

```
$ sudo apt-get install libxalan-c111=1.11-6
Reading package lists... Done
Building dependency tree
Reading state information... Done
libxalan-c111 set to manually installed.
$ sudo apt-mark hold libxalan-c111
```

### 4. Conclusion

Digidoc on Debian 9 still works as long as you get somehow the broken package *awp* installed (see above). You also have to take care that you hold the package *libxalan-c111* at version 1.11-6 and do not upgrade it.

Here a list of packages with version numbers I installed from the RIA-repository <https://installer.id.ee/media/ubuntu/>:

Package	Installed version
awp	5.3.0,.16.04.130
chrome-token-signing	1:1.0.8.500-1604
firefox-pkcs11-loader	3,13.0.1074-1604
firefox-pkes11-loader	3,13.0.1074-1604
libdigidoc-common	3,10.1.1212-1510
libdigidoc-common	3,10.1.1212-1510
libdigidoc-tools	3,10,1.1212-1510
libdigidoc2	3,10.1.1212-1510
libdigidocpp-common	3,13.8.1379-1604
libdigidocpp-common	3,13.8.1379-1604
libdigidocpp-tools	3,13.8.1379-1604
libdigidocpp1	3,13.8.1379-1604
libxml-security-c17v5	L7.3-1RIAL
open-eid	18.12.0.1815-1604
open-eid	18.12.0.1815-1604
opensc	0.19.0-0RIA2
opensc-pkes11	0.19.0-0RIA2
adigidoc-tera	1.1.0,12-1604
adigidoca	4.2.0.43-1604