



*Empowering Solution*

<i>Title</i>	<b>New Install SAP Router Configuration in Linux</b>
<i>Version</i>	<b>7.0</b>
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<i>Date</i>	<b>22.11.2016</b>

## 1 Symptoms

Installing New Sap Router in Linux / Unix O.S. and Renewal Certificate Process

## 2 Prerequisites

- Access of root user in O.S.
- Login Access of S User (Sap Portal)
- Server Host Name and Server IP should be assign in your Sap Portal for Sap router
- Your distinguished name (Find from Sap Portal under Sap router certificate or Cmd: sapgenspe get\_my\_name)
- You need to open the port for SAP Router 3299 & Gateway Port 3399 3389

## 3 Solutions

### Step 1.

1. Login to the SAP Support Portal with the S-user ID and Download latest version file

**SAPCRYPTOLIBP\_8506-20011697.SAR**  
**SAPROUTER\_34-70000854.sar**

```
>Support Packages & Patches  
>A-Z Alphabetical List of Products  
>S  
>SAPCRYPTOLIB.SAR  
>SAPROUTER.SAR
```

2. Login into server with “Root” user.
3. Create folder under path “/usr/sap/” with name of Saprouter and move downloaded file in to newly created folder (*usr/sap/Saprouter*)
4. Provide 775 permission to Saprouter Folder (`chmod -R 775 /usr/sap/Saprouter`)

## 5. Extract both file "Saprouter and Sapcryptolib" with help of tool "SAPCAR"

```

-rwxr-xr-x. 1 root root 4430400 Nov 23 12:37 SAPCAR_712-80000935.EXE
-rwxr-xr-x. 1 root root 2330807 Nov 23 12:37 SAPCRYPTOLIBP_8506-20011697.SAR
-rwxr-xr-x. 1 root root 1371881 Nov 23 12:37 saprouter_34-70000854.sar

[root@... router745]# ./SAPCAR_712-80000935.EXE -xvf SAPCRYPTOLIBP_8506-20011697.SAR
SAPCAR: processing archive SAPCRYPTOLIBP_8506-20011697.SAR (version 2.01)
x sapcrypto.mf
x libslcryptokernel.so
x libsapcrypto.so
x sapgenpse
x libslcryptokernel.so.sha256
x sapcrypto.lst
SAPCAR: 6 file(s) extracted
[root@... router745]# ./SAPCAR_712-80000935.EXE -xvf saprouter_34-70000854.sar
SAPCAR: processing archive saprouter_34-70000854.sar (version 2.01)
x niping
x patches.mf
x saprouter
SAPCAR: 3 file(s) extracted

-rwxr-xr-x. 1 root root 5747827 Nov 7 20:58 libsapcrypto.so
-rwxr-xr-x. 1 root root 499679 Mar 2 2016 libslcryptokernel.so
-rw-r--r--. 1 root root 166 Nov 10 15:18 libslcryptokernel.so.sha256
-rwxrwxr-x. 1 root root 1385024 Jan 26 2016 niping
-rwxrwxr-x. 1 root root 306 Jan 26 2016 patches.mf
-rwxr-xr-x. 1 root root 4430400 Nov 23 12:37 SAPCAR_712-80000935.EXE
-rwxr-xr-x. 1 root root 2330807 Nov 23 12:37 SAPCRYPTOLIBP_8506-20011697.SAR
-rw-r--r--. 1 root root 102 Nov 10 15:18 sapcrypto.lst
-rw-r--r--. 1 root root 256 Nov 10 15:18 sapcrypto.mf
-rwxr-xr-x. 1 root root 34193 Nov 7 20:58 sapgenpse
-rwxrwxr-x. 1 root root 1687736 Jan 26 2016 saprouter
-rwxr-xr-x. 1 root root 1371881 Nov 23 12:37 saprouter_34-70000854.sar

```

**Step 2.****1. Generate the certificate request using the following command:**

( Note : distinguished name should be available and PIN can enter 1234)

```
./sapgenpse get_pse -v -r certreq -p loc
```

```

Got absolute PSE path "/usr/sap/saprouter/local.pse".
Please enter PIN: ****
Please reenter PIN: ****
Supplied distinguished name: "CN=HOST Name, OU=Customer Number, OU=SAProuter, O=SAP, C=DE"
Creating PSE with format v2 (default)
Generating key (RSA, 2048-bits) ... succeeded.
certificate creation... ok
PSE update... ok
PKRoot... ok
Generating certificate request... ok.

```

```

-rwxr-xr-x. 1 root root 5747827 Nov  7 20:58 libsapcrypto.so
-rwxr-xr-x. 1 root root 499679 Mar  2 2016 libslcryptokernel.so
-rw-r--r--. 1 root root 166 Nov 10 15:18 libslcryptokernel.so.sha256
-rwxrwxrwx. 1 root root 3159 Nov 18 12:51 loc.pse
-rwxrwxr-x. 1 root root 1385024 Jan 26 2016 niping
-rwxrwxr-x. 1 root root 306 Jan 26 2016 patches.mf
-rwxrwxrwx. 1 root root 4430400 Nov 16 18:01 SAPCAR_712-80000935.EXE
-rwxrwxrwx. 1 root root 2330807 Nov 16 18:00 SAPCRYPTOLIBP_8506-20011697.SAR
-rw-r--r--. 1 root root 102 Nov 10 15:18 sapcrypto.lst
-rw-r--r--. 1 root root 256 Nov 10 15:18 sapcrypto.mf
-rwxr-xr-x. 1 root root 34193 Nov  7 20:58 sapgenpse
-rwxrwxr-x. 1 root root 1687736 Jan 26 2016 saprouter
-rwxrwxrwx. 1 root root 1371881 Nov 16 18:00 saprouter_34-70000854.sar

```

## 2. Once the request is created, it creates the file certreq:

Open Certreq file in display mode ( CMD : cat certreq)

```

-----BEGIN CERTIFICATE REQUEST-----
MIICnTCCAUYUCAAwWDELMAKGA1UEBhMCREUxDDAKBgNVBAoTA1NBUEDESMBAGA1UE
CxMJU0FQcm91dGVyMRMwEQYDVQQLEwowMDAxMjk4MDAzMRIwEAYDVQQDEwISUEXE
RVZRUVUEwggEiMA LASDVbKcASKJDNcASLDKN AL;KSKXM ALSKNC LSKN s;l Nsl Nslx Nsx
n;lSxn skjx SX JNsx SD sd HFGHGFGFSDVASDVAfVfVDFD F SADFASSDFD SDFASDFSADFA
certreq0GCSqGSIb3DQEBAQUAA4IBDwAwggEKAoIBAQD+za7CY9unsRnNADSCADCDCDCD
dTJf6SKIHXpXzwCN2dfe4+mqJIRkGJaxkGGgxrLabi3BoIOXldLTfIO4GtoBW8ASDCADCASDCADC
dX3HAHjjo/hpKhYjFCLbIOHSwY5Db2T1xsZ/xj4BBJ+XaUvWhmXkQsxUJQSSqQPGXyPADCDC
NVK3YW1u4XyWbHS2f5XyfZPXdyVpqfTPTewD52ASDVASDCmEc7eVHxHEEGjux2YmwZAh//DSCw7
/XWoL1fK7dfO6G2kzLh6jD+n5kda25AT9h3DKu8NY6df494N3bASDCSDkHpHNvI0yywiL0ADCADC
f0AQJH/Vo2ryQmRKspZe2a/EA756Ozqpog/LKv2HR8CJ6wXmDmPFQWASDCZuSxRJUrx5DCDC
yOZwVg85AgMBAAGgADANBgkqhkiG9w0BAQUFAAOCAQEALHK0Qxi03TRUASSDCWjpbHXoj
lgru8mXKcRP62+CSWhtH5tV2Y9IaABm9jejpQx1DlGdGj01LnBwWFN44zMR354UzASDCADCDC
S0Uf4KGJLal+MIRBoA79Pfxqy/7Fvy5DG+TOumNpjeHKW7OLSlYr6RuchfOVjrAZACSDCASAD
rf8JNzCfSyDrpY9ZqKFE4bXsqfaY7ygbNSoolLgALjesgmkvGtM6svliWcbXZQQ/DCASDCADF
ZOj1VJaPNHi6FsRisXCym/K/RCmTfk6/dwPRmocyMiWLwYqIAQjzye6epD8x1eM8SDCASDCDF
8xjOZdoO/cWKy+uMV0xNSzqwwl8LKnK5HzvOS86RdqMZlqEMFOvqIPxkxtdrceoASDCFD
-----END CERTIFICATE REQUEST-----

```

- Copy this script from .....BEGIN to .....END...
- Then Login to service marketplace under: <http://www.service.sap.com/saproutersnc> add à Apply Certificate this opens the form below. Select Continue

**SAPROUTER CERTIFICATES FOR SUPPORT CONNECTIONS**

SAP TRUST CENTER SERVICES

SAProuter is an SAP software program for controlling and monitoring communication between internal and external networks. Because SAP routes all acc connections via a corresponding SAProuter, the connection between SAP and the customer is reduced to a single SAProuter - SAProuter connection.

**Encrypt your data transfer**

Special server certificates can be issued to validate Internet connections set up for support purposes between your company and SAP via the SAProuter authentication for encrypted data transfer within mySAP.com via the Generic Security Services API interface (GSS-API).

**SAPROUTER CERTIFICATE**

[Apply Now!](#)

**Apply for a SAProuter certificate**

SAProuter certificates are available free of charge from the SAP Service Marketplace.

- Paste the contents of the certreq file generated above as below, and then “Request Certificate”. See below
- Copy the details of the new certificate generated and then Create txt file with name of srcert(touch srcert) and paste it in a new file srcert in the

**Create CSR on SAProuter**

Copy & Paste the following highlighted text and use it as the [Distinguished name] parameter in the sapgenpse program running on your SAProuter to create the Personal Security Environment (PSE) and Certificate Signing Request (CSR).

O=SAP, OU=4000912221, OU=SAProuter, C=SA, C=DE

**Insert the Certificate Signing Request**

- Copy the Certificate Request generated with sapgenpse from the text file.
- Insert the Certificate Request in the following text field.
- Choose Request Certificate.

```
-----BEGIN CERTIFICATE REQUEST-----
MIIBIjCCAQICAwVzE1AAQ1UUEIBCR3E3wCGarDgVYbaTALSRIDCOMBAGALUE
C=SA1U1PQwY1d0V9NRW50VVOGLI8w9M4wGTEW; 1=NR2vV7VQDDw4h3j
bG1z2TCBwAR8p8g8ksG1w8MA8E3AJ0DyQAwgVAcYTEA/TaqR80c8H1g0get371
r1Im21z9F lowL08p2b1PqCnc7N8eRPFashJk3b8wP1w978D9k8g8LqP8E8p
7a9zT10M4v11p11aV8q1V1R9v1K8vT8w8E8Z8W88p8Y8c8r8g8f8D8p8
OY1vud/Va1J8H8ed/vEY8wC8wE8A8A8A8A8O8C8G1b1D8E8D8G8A8G8A1Oy8e8d8
1a818D8C8J8a8g8Z8w8e8w8e8t8z811888p8u881888J8I8H88818w8a8178p8Q
1p8f8w8E8c8U888V8s8A8V8w8G1T8H8t8a8y8e8Y878y8w8e8d818p8w8J8L8m8J8a
8ng8v8p8119888w8E85841B8G8D8p848p8W8J8k8
-----END CERTIFICATE REQUEST-----
```

[Request Certificate](#)

### 3. Importing the Certificate & Creating Credential:

**/sapgenpse import\_own\_cert -c srcert -p loc.pse**

Please enter PIN: \*\*\*\*

CA-Response successfully imported into PSE "/usr/sap/saprouter/loc.pse"

#### 4. Creating the credential for User responsible to start SAP Router:

```
./sapgenpse seclogin -p local.pse -O roo
```

inistrator

running seclogin with USER="root"

creating credentials for secondary user "root" ...

Please enter PIN: \*\*\*\*

Added SSO-credentials (#0) for PSE "/usr/sap/saprouter/loc.pse"

"CN=Host name, OU=Customer Number, OU=SAProuter, O=SAP, C=DE"

```
-rwxrwxrwx. 1 root root      985 Nov 18 12:26 certreq
-rw-r--r--. 1 root root      331 Nov 18 13:03 cred_v2
-rw-r--r--. 1 root root 32579529 Nov 23 13:16 dev_rout
-rwxr-xr-x. 1 root root  5747827 Nov  7 20:58 libsapcrypto.so
-rwxr-xr-x. 1 root root  499679 Mar  2 2016 libslcryptokernel.so
-rw-r--r--. 1 root root    166 Nov 10 15:18 libslcryptokernel.so.sha256
-rwxrwxrwx. 1 root root    3159 Nov 18 12:51 loc.pse
-rwxrwxr-x. 1 root root 1385024 Jan 26 2016 niping
-rwxrwxr-x. 1 root root    306 Jan 26 2016 patches.mf
-rwxrwxrwx. 1 root root 4430400 Nov 16 18:01 SAPCAR_712-80000935.EXE
-rwxrwxrwx. 1 root root 2330807 Nov 16 18:00 SAPCRYPTOLIB_8506-20011697.SAR
-rw-r--r--. 1 root root    102 Nov 10 15:18 sapcrypto.lst
-rw-r--r--. 1 root root    256 Nov 10 15:18 sapcrypto.mf
-rwxr-xr-x. 1 root root   34193 Nov  7 20:58 sapgenpse
-rwxrwxr-x. 1 root root 1687736 Jan 26 2016 saprouter
-rwxrwxrwx. 1 root root 1371881 Nov 16 18:00 saprouter_34-70000854.sar
-rw-r--r--. 1 root root    3267 Nov 21 17:24 saprountab
-rw-r--r--. 1 root root    3261 Nov 21 17:20 saprountab_org
-rwxrwxrwx. 1 root root    2674 Nov 18 12:51 srcert
```

#### 5. Verifying the Configuration:

```
./sapgenpse get_my_name -v -n Issuer
```

Opening PSE "/usr/sap/saprouter/loc.pse"...

PSE (v2) open ok.

Retrieving my certificate... ok.

Getting requested information... ok.

SSO for USER "root"

with PSE file "/usr/sap/saprouter/loc.pse"

Issuer : CN=SAProuter CA, OU=SAProuter, O=SAP Trust Community II, C=DE

#### 6. ./sapgenpse get\_my\_name -n validity

SSO for USER "root"

with PSE file "/usr/sap/saprouter/loc.pse"

Validity - NotBefore: Thu Jul 14 12:57:44 2016 (160714095744Z)

NotAfter: Fri Jul 14 12:57:44 2017 (170714095744Z)

## Step 3.

### 1. Set Environment variables from root user

```
export SECUDIR=/usr/sap/saprouter
export SNC_LIB=/usr/sap/saprouter/libsapcrypto.so
```

```
disply Environment variable path echo $SECUDIR
```

set this as permanent add it to the file .profile or .bashrc

### 2. SAPROUTTAB Entry

- Create saprountab txt file (touch saprountab)
  - vi saprountab
  - sapserv2 (194.39.131.34): Connection via Internet SNC
 

```
p * * *
#SNC connection to SAP
KT "p:CN=sapserv2, OU=SAProuter, O=SAP, C=DE" 194.39.131.34 *
#SNC-connection from SAP to local R/3-System for Support
#SNC-connection from SAP to local R/3-System for saptelnet
#Access from your local Network to SAP R/3 Frontend (OSS)

P * 194.39.131.34 *
KT "p:CN=sapserv2, OU=SAProuter, O=SAP, C=DE" 192.168.XXX.XX *
KP "p:CN=sapserv2, OU=SAProuter, O=SAP, C=DE" 192.168.0.X3200
KP "p:CN=sapserv2, OU=SAProuter, O=SAP, C=DE" 192.168.0.X 23
KP "p:CN=sapserv2, OU=SAProuter, O=SAP, C=DE" 192.168.0.X3399
KT "p:CN=sapserv2, OU=SAProuter, O=SAP, C=DE" 194.39.131.34 *
KT "p:CN=sapserv2, OU=SAProuter, O=SAP, C=DE" 192.168.XXX.XX *
```
- ```
p * * * *
#saprouter internal ip 192.168.XXX.XX
#GUI internal ip 192.168.0.X 3200(00 is instance)
```

### 3. Start Sap Router Command in Linux

`#!/usr/sap/saprouter > Enter cmd`

`./saprouter -r -V 2 -K "p:CN=HOSTNAME, OU=CUSTOMER Number,  
OU=SAProuter, O=SAP, C=DE"`

Note: check proper space b/w distinguished name

Note: Don't close terminal after start sap router

### 4. Stop Sap Router

`#!/usr/sap/saprouter > Enter cmd`

`Saprouter -s`

If facing any issue check `dev_rout` file

## 4 References

[1] SAP AG "SAProuter (BC-CST-NI)", <http://help.sap.com>

[2] Waddaya Solutions

[Blog.waddaya.com](http://Blog.waddaya.com)