

Check the /etc/hosts if FQDN is already maintain

```
root@dclnx21788396-BHP-sinzue05:~ # getent hosts | grep bhp
192.168.38.113 zpaapbhp1100 zpaapbhp1100c4 sgisgsapbhp11.zuelligpharma.interpharma.local
192.168.38.114 zpaapbhp1200 zpaapbhp1200c4 sgisgsapbhp12.zuelligpharma.interpharma.local
192.168.38.115 zpaapbhp1300 zpaapbhp1300c4 sgisgsapbhp13.zuelligpharma.interpharma.local
192.168.38.116 zpaapbhp1400 zpaapbhp1400c4 sgisgsapbhp14.zuelligpharma.interpharma.local
164.22.0.161 zpaapbhp1100s4
164.22.0.164 zpaapbhp1400s4
192.168.38.113 zpaapbhp1100 zpaapbhp1100c4
164.22.0.163 zpaapbhp1300s4
192.168.38.116 zpaapbhp1400 zpaapbhp1400c4
164.22.0.160 zpaacbhp5700s4
192.168.38.115 zpaapbhp1300 zpaapbhp1300c4
164.22.0.162 zpaapbhp1200s4
192.168.38.114 zpaapbhp1200 zpaapbhp1200c4
192.168.38.112 zpaacbhp5700 zpaacbhp5700c4
root@dclnx21788396-BHP-sinzue05:~ #
```

Check if Kerberos 5 is already configured on that host

```
root@dclnx21788396-BHP-sinzue05:~ # cd /etc/
root@dclnx21788396-BHP-sinzue05:/etc # ls -ltr *krb5*
-rw-r--r-- 1 root root 676 Jun 29 13:54 krb5.conf_20160607
-rw-r--r-- 1 root root 908 Jul 7 10:57 krb5.conf
-rw-r----- 1 root sapsys 3027 Aug 16 15:04 krb5.keytab
root@dclnx21788396-BHP-sinzue05:/etc #
root@dclnx21788396-BHP-sinzue05:/etc #
```

Copy the keytab to /etc/Keytabs

```
root@dclnx21788396-BHP-sinzue05:~ # cd /usr/sap/globalscratch/mkhalid/ZP_Keytab/
root@dclnx21788396-BHP-sinzue05:/usr/sap/globalscratch/mkhalid/ZP_Keytab # ls -ltr
total 128
-rwxrwxrwx 1 root root 123 Aug 16 14:45 bipadm12.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 crpadm12.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 ecpadm12.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 ectadm12.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 pcpadm12.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 pipadm14.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 scpadm12.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 srpadm12.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 wmladm12.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 wm2adm14.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 wm3adm12.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 wm4adm14.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 wm5adm12.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 wm6adm15.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:45 wm7adm15.keytab
drwxrwxr-x 2 root root 1024 Aug 16 14:47 SAP_HANA_servers_keytab
root@dclnx21788396-BHP-sinzue05:/usr/sap/globalscratch/mkhalid/ZP_Keytab # cd SAP_HANA_servers_keytab
root@dclnx21788396-BHP-sinzue05:/usr/sap/globalscratch/mkhalid/ZP_Keytab/SAP_HANA_servers_keytab #
total 48
-rwxrwxrwx 1 root root 123 Aug 16 14:47 bcp56adm11.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:47 bhp11adm11.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:47 bhp12adm11.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:47 bhp13adm11.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:47 bhp14adm11.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:47 rsp08adm11.keytab
root@dclnx21788396-BHP-sinzue05:/usr/sap/globalscratch/mkhalid/ZP_Keytab/SAP_HANA_servers_keytab #
root@dclnx21788396-BHP-sinzue05:/usr/sap/globalscratch/mkhalid/ZP_Keytab/SAP_HANA_servers_keytab #
```

List the keytab

```

root@dcplnx21788396-BHP-sinzue05:/usr/sap/globalscratch/mkhalid/ZP_Keytab/SAP_HANA_servers_keytab #
root@dcplnx21788396-BHP-sinzue05:/etc/Keytabs #
root@dcplnx21788396-BHP-sinzue05:/etc/Keytabs # ls -ltr
total 144
-rw-r--r-- 1 root root 123 Jun  8 15:10 BIXadmvl.keytab
-rw-r--r-- 1 root root 123 Jun  8 15:11 CRXadmvl.keytab
-rw-r--r-- 1 root root 123 Jun  8 15:11 ECXadmvl.keytab
-rw-r--r-- 1 root root 123 Jun  8 15:11 PCXadmvl.keytab
-rw-r--r-- 1 root root 123 Jun  8 15:12 PIXadmvl.keytab
-rw-r--r-- 1 root root 123 Jun  8 15:12 SCXadmvl.keytab
-rw-r--r-- 1 root root 123 Jun  8 15:12 SRXadmvl.keytab
-rw-r--r-- 1 root root 123 Jun  8 15:12 WX1admvl.keytab
-rw-r--r-- 1 root root 123 Jun  8 15:12 WX2admvl.keytab
-rw-r--r-- 1 root root 123 Jun  8 15:12 WX3admvl.keytab
-rw-r--r-- 1 root root 123 Jun  8 15:12 WX4admvl.keytab
-rw-r--r-- 1 root root 123 Jun  8 15:13 WX5admvl.keytab
-rw-r--r-- 1 root root 123 Jun  8 15:13 WX6admvl.keytab
-rw-r--r-- 1 root root 123 Jun  8 15:13 WX7admvl.keytab
-rw-r--r-- 1 root root 123 Aug 11 14:43 crpadmv12.keytab
drwxr-xr-x 2 root root 1024 Aug 11 15:39 PRD_Keytabs
-rwxrwxrwx 1 root root 123 Aug 16 14:47 rsp08admvl.keytab
-rwxrwxrwx 1 root root 123 Aug 16 14:47 bhp11admvl.keytab
root@dcplnx21788396-BHP-sinzue05:/etc/Keytabs #

```

Import the keytab

```

root@dcplnx21788396-BHP-sinzue05:/etc/Keytabs # ktutil
ktutil: rkt /etc/Keytabs/bhp11admvl.keytab
ktutil: l -e
slot KVNO Principal
-----
  1   3 SAPServbhp11/sgisgsapbhp11.zuelligpharma.interpharma.local@ZUELLIGPHARMA.INTERPHARMA.LOCAL
ktutil:
ktutil: wkt /etc/krb5.keytab
ktutil: q
root@dcplnx21788396-BHP-sinzue05:/etc/Keytabs #

```

Validate the keytab

```

root@dcplnx21788396-BHP-sinzue05:/etc/Keytabs #
root@dcplnx21788396-BHP-sinzue05:/etc/Keytabs # kinit -V -k SAPServbhp11/sgisgsapbhp11.zuelligpharma
Authenticated to Kerberos v5
root@dcplnx21788396-BHP-sinzue05:/etc/Keytabs #
root@dcplnx21788396-BHP-sinzue05:/etc/Keytabs # su - bhpadm
dcplnx21788396:bhpadm 53> kinit -V -k SAPServbhp11/sgisgsapbhp11.zuelligpharma.local@ZUE
Authenticated to Kerberos v5
dcplnx21788396:bhpadm 54>

```

Lin	40	<ol style="list-style-type: none"> 1. Modify krb5.conf with the proper config. <ol style="list-style-type: none"> a. Modif the following lines with the correct info: <ul style="list-style-type: none"> - Default_realm - Everything in the realms category - Kdc - Admin_server - Default_domain - Domain realm - All log file locations to /var/log/krb5 (create a linux folder)
ux	0	
-		
O/		
S		

		<pre> [logging] default = FILE:/var/log/krb5libs.log kdc = FILE:/var/log/krb5kdc.log admin_server = FILE:/var/log/kadmind.log [libdefaults] default_realm = EXAMPLE.COM dns_lookup_realm = false dns_lookup_kdc = false ticket_lifetime = 24h forwardable = yes [realms] EXAMPLE.COM = { kdc = kerberos.example.com:88 admin_server = kerberos.example.com:749 default_domain = example.com } [domain_realm] .example.com = EXAMPLE.COM example.com = EXAMPLE.COM "/etc/krb5.conf" 31L, 608C [logging] default = FILE:/var/log/krb5/krb5libs.log kdc = FILE:/var/log/krb5/krb5kdc.log admin_server = FILE:/var/log/krb5/kadmind.log [libdefaults] default_realm = ZUELLIGPHARMA.INTERPHARMA.LOCAL dns_lookup_realm = false dns_lookup_kdc = false ticket_lifetime = 24h forwardable = yes [realms] ZUELLIGPHARMA.INTERPHARMA.LOCAL = { kdc = phisgpd02.zuelligpharma.interpharma.local admin_server = phisgpd01.interpharma.local default_domain = zuelligpharma.interpharma.local } [domain_realm] .zuelligpharma.interpharma.local = ZUELLIGPHARMA.INTERPHARMA.LOCAL zuelligpharma.interpharma.local = ZUELLIGPHARMA.INTERPHARMA.LOCAL [appdefaults] "/etc/krb5.conf" 30L, 788C written </pre> <p>b. Ensure the proper authorizations are set for the logfile location ie /var/log/krb5</p> <pre> mkdir /var/log/krb5 chmod 777 /var/log/krb5 </pre>
Linux - O/S	500	<p>1. Key import to linux server</p> <ol style="list-style-type: none"> a. Copy the keytab file from the AD server to the linux server b. Import the keytab thru ktutil <p>Run ktutil then execute the following commands under as per screenshot below.</p>

		<pre>[root@saptest ~]# ktutil ktutil: rkt /sap-install/maj.keytab ktutil: l -e slot KVNO Principal ----- 1 6 SAPService/saptest.zuelligpharma.interpharma.local PHARMA.LOCAL (DES cbc mode with RSA-MD5) ktutil: wkt /etc/krb5.keytab ktutil: q</pre>
Linux - OS	600	<ol style="list-style-type: none"> 1. Initialize Kerberos (TGT) Ticket granting ticket <ol style="list-style-type: none"> a. Run the kinit command Kinit -V -k SAPService<sid>/<FQDN of the linux server>@Full Domain <pre>[root@saptest ~]# kinit -V -k SAPService/saptest.zuelligpharma.local@ZUELLIGPHARMA.INTERPHARMA.LOCAL Authenticated to Kerberos v5</pre> b. Ensure the ownership and permissions of the /etc/krb5.keytab <pre>chgrp sapsys /etc/krb5.keytab chmod 640 /etc/krb5.keytab</pre> c. To further check change user to <sid>adm run the kinit command. <pre>saptest:majadm 51> kinit -V -k SAPService/saptest.zuelligpharma.local@ZUELLIGPHARMA.INTERPHARMA.LOCAL Authenticated to Kerberos v5</pre>
Linux - OS	700	<ol style="list-style-type: none"> 1. Create Crontab entries for kerberos ticket renewal <ol style="list-style-type: none"> a. Run crontab in linux to create a batch-type scheduling of the ticket renewal Crontab -e 01 0,6,12,18 *** /usr/Kerberos/bin/kinit -k SAPService<sid>/saptest.zuelligpharma.interpharma.local <pre>[root@saptest bin]# crontab -l 01 0,6,12,18 * * * /usr/kerberos/bin/kinit -k SAPService/saptest.zuelligpharma.local</pre>
SAP	800	<ol style="list-style-type: none"> 1. Configure SAP for SSO <ol style="list-style-type: none"> a. Perform the following profile parameter changes in tcode Rz10 snc/gssapi_lib = /usr/lib64/libgssapi_krb5.so snc/identity/as = p/krb5:SAPService<sid>/saptest.zuelligpharma.interpharma.local@ZUELLIGPHARMA.INTERPHARMA.LOCAL snc/enable = 1 snc/accept_insecure_cplic = 1 snc/accept_insecure_rfc = 1 snc/accept_insecure_gui = 1 snc/accept_insecure_r3int_rfc = 1 snc/data_protection/min = 1 snc/data_protection/max = 3 snc/data_protection/use = 3 snc/permit_insecure_start = 1

```
# SSO parameters
snc/gssapi_lib = /usr/lib64/libgssapi_krb5.so
snc/identity/as = p/krb5:SAPService/saptest.zuelligpharma.interpharma.
LIGPHARMA.INTERPHARMA.LOCAL
snc/enable = 1
snc/accept_insecure_cplic = 1
snc/accept/insecure_rfc = 1
snc/accept_insecure_gui = 1
snc/accept_insecure_r3int_rfc = 1
snc/data_protection/min = 1
snc/data_protection/max = 3
snc/data_protection/use = 3
snc/permit_insecure_start = 1
```

2. Restart SAP system for the profile parameter changes to take effect.