



## Sample PCF Configuration

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### Sample Configuration File

The following is only a sample configuration file provided solely for your reference. You must create and modify your own configuration file according to the specific needs of your deployment.



#### Important

The mandatory parameters are required to ensure that the critical pods such as CRD and Policy Engine are in the running state.

```
config
datastore primary-endpoint connection-settings keep-alive keep-alive-time-ms 200
datastore primary-endpoint connection-settings channel count 4
datastore primary-endpoint connection-settings timeout-ms 500
datastore external-endpoints datastore
  connection-settings keep-alive keep-alive-time-ms 200
  connection-settings channel count 3
  connection-settings timeout-ms 500
exit
ldap replicas 2
ldap server-set USD
search-user dn cn=sdcUser,dc=C-NTDB
search-user password $8$yx0jELXTK0f7CJO2XklpJx+CpCUIX13B9C5oQ4NEaI=
health-check interval-ms 5000
health-check dn cn=sdcUser,dc=C-NTDB
health-check filter msisdn=918369110173
health-check attributes napCustType
initial-connections 10
max-connections 10
retry-count 2
retry-timer-ms 100
max-failover-connection-age-ms 60000
binds-per-second 0.2
number-consecutive-timeouts-for-bad-connection -1
missing-attribute-result-code 32
connection 192.0.2.18 389
  priority 400
  connection-rule ROUND_ROBIN
  auto-reconnect true
  timeout-ms 200
```

```

    bind-timeout-ms 3000
  exit
  connection 192.0.2.18 390
    priority 400
    connection-rule ROUND_ROBIN
    auto-reconnect true
    timeout-ms 200
    bind-timeout-ms 3000
  exit
  connection 192.0.2.18 391
    priority 400
    connection-rule ROUND_ROBIN
    auto-reconnect true
    timeout-ms 200
    bind-timeout-ms 3000
  exit
  exit
  //This is a mandatory parameter
  db global-settings db-replica 3
  //This is a mandatory parameter
  db global-settings volume-storage-class local
  db spr shard-count 1
  db balance shard-count 1
  debug tracing type DISABLED
  debug logging default-level error
  debug logging logger com.broadhop
    level warn
  exit
  debug logging logger com.broadhop.custrefdata.impl.dao.GenericDao
    level error
  exit
  debug logging logger com.broadhop.diameter2.policy.endpoints
    level error
  exit
  debug logging logger com.broadhop.ldap
    level error
  exit
  debug logging logger com.broadhop.microservices.control
    level error
  exit
  debug logging logger com.broadhop.utilities.queue.redis
    level error
  exit
  debug logging logger com.cisco
    level warn
  exit
  debug logging logger com.cisco.diameter
    level error
  exit
  debug logging logger com.cisco.diameter.endpoint
    level error
  exit
  debug logging logger com.cisco.pcf
    level debug
  exit
  debug logging logger com.cisco.pcf.endpoint.client
    level error

  exit
  debug logging logger com.cisco.pcf.endpoint.client.Http2JettyRequestAsync
    level error
  exit
  debug logging logger com.cisco.pcf.ldapservers
    level warn

```

```
exit
debug logging logger com.cisco.pcf.nf.cache.NfCache
    level warn
exit
debug logging logger io.prometheus.client
    level error
exit
debug logging logger policy.engine
    level debug
exit
debug logging logger rest.message
    level warn
exit
features patching ingress-enabled true
diameter settings timeouts-ms dpa 5000
diameter application rx
    application-id 16777236
    tcpp-application true
    vendor [ 10415 ]
exit
diameter group rx-protocol-1
    mode server
    stack rx-protocol-1
    application rx
    replicas 2
    bind-ip 192.0.2.19
    bind-port 3868
    fqdn pcf-rx-server-1
    realm pcf.rx.server.cisco.com
    settings timeouts-ms request 5000
exit
exit
ldap-server-endpoint connect bind-ip 192.0.2.20
ldap-server-endpoint connect binddn cn=plfuser
ldap-server-endpoint connect password $8$1eiow0TCw8sMRzP8czGABoog5Y1DxrD49EGWVmw3PoI=
ldap-server-endpoint connect port 1399
ldap-server-endpoint connect request-timeout 5000
ldap-server-endpoint connect replicas 2
ldap-server-endpoint connect max-transactions 200
ldap-server-endpoint health-check-filter name msisdn
ldap-server-endpoint health-check-filter value 11110100000
ldap-server-endpoint input-mapping framedipaddress
    internal-lookup-key IP_ADDRESS
exit
ldap-server-endpoint input-mapping imsi
    internal-lookup-key IMSI
exit
ldap-server-endpoint input-mapping msisdn
    internal-lookup-key MSISDN
exit
ldap-server-endpoint output-mapping ACCESS_TYPE
    input accessType
exit
ldap-server-endpoint output-mapping RAT_TYPE
    input ratType
exit
ldap-server-endpoint output-mapping calledstationid
    input dnn
exit
ldap-server-endpoint output-mapping callingstationid
    input msisdn
exit
ldap-server-endpoint output-mapping framedipv4
    input framedIp
```

```

exit
ldap-server-endpoint output-mapping framedipv6
  input framedIpv6Prefix
exit
ldap-server-endpoint output-mapping imsi
  input supi
exit
ldap-server-endpoint output-mapping offline_charging
  input offline
exit
ldap-server-endpoint output-mapping online_charging
  input online
exit
ldap-server-endpoint health-check-attributes msisdn
  value 11110100000
exit
//This is a mandatory parameter
rest-endpoint port 9082
rest-endpoint tracing-service-name pcf-rest-endpoint
rest-endpoint replicas 2
rest-endpoint interface n28
  ip [ 192.0.3.20 ]
exit
rest-endpoint interface n7
  ip [ 192.0.3.21 ]
exit
rest-endpoint interface n15
  ip [ 10.102.3.218 ]
  port 9082
exit
rest-endpoint interface nrf
  ip [ 192.0.2.22 ]
  outbound-request-timeout-ms 500
exit
advance-tuning http2-threading min-thread-pool-size 10
advance-tuning http2-threading max-thread-pool-size 25
advance-tuning http2-threading disable-validation false
advance-tuning overload-control rest global limits max-requests-per-sec 9000
advance-tuning overload-control rest global action throttle-action REJECT
advance-tuning overload-control diameter global limits max-requests-per-sec 9000
advance-tuning overload-control diameter global action throttle-action DROP
advance-tuning async-threading default-worker-threads 20
advance-tuning async-threading default-queue-size 100
advance-tuning async-threading default-processing-threads 20
advance-tuning async-threading http2-connect-timeout-ms 120
api unified engine-group pcf01production
//This is a mandatory parameter
api unified externalIPs [ 192.0.2.23 ]
//This is a mandatory parameter
api unified external-port 8080
//This is a mandatory parameter
engine pcf01production
//This is a mandatory parameter
  replicas 2
//This is a mandatory parameter
  subversion-run-url http://svn/repos/run
//This is a mandatory parameter
  subversion-config-url http://svn/repos/configuration
//This is a mandatory parameter
  tracing-service-name pcf-engine
  properties broadcast.tps
    value 100
  exit
  properties ldap.retry.time.ms

```

```
    value 200
  exit
  properties loopback.delay
    value 20
  exit
  properties pcf.actions.sync.timeoutMs.default
    value 410
  exit
  properties useZlibCompression
    value true
  exit
  properties virtualservice.cache.enabled
    value true
  exit
  properties virtualservice.evaluate.defaultvs
    value true
  exit
  properties warmup.message.count
    value 20
  exitexit
label protocol-layer key smi.cisco.com/node-type-2
label protocol-layer value protocol
label service-layer key smi.cisco.com/node-type-3
label service-layer value service
label cdl-layer key smi.cisco.com/node-type-4
label cdl-layer value session
label oam-layer key smi.cisco.com/node-type
label oam-layer value oam
external-services datastore
  ips [ 192.0.2.24 ]
  ports [ 8882 ]
exit
profile nf-client nf-type udr
  udr-profile local-udr
    locality localudr
    priority 10000
    service name type nudr-dr
    endpoint-profile udr_profile_1
      capacity 10
      priority 30
      uri-scheme http
      version
        uri-version v2
      exit
    exit
    endpoint-name udr_ep1
      primary ip-address ipv4 10.102.4.151
      primary ip-address port 5182
    exit
  exit
  endpoint-profile udr_profile_2
    capacity 10
    priority 30
    uri-scheme http
    version
      uri-version v2
    exit
  exit
  endpoint-name udr_ep1
    primary ip-address ipv4 10.102.4.151
    primary ip-address port 5183
  exit
  exit
  endpoint-profile udr_profile_3
```

```
capacity 10
priority 30
uri-scheme http
version
  uri-version v2
exit
exit
endpoint-name udr_ep1
  primary ip-address ipv4 10.102.4.151
  primary ip-address port 5184
exit
exit
exit
exit
exit
exit
profile nf-client nf-type chf
chf-profile local-chf
locality localchf
priority 10000
service name type nchf-spendinglimitcontrol
endpoint-profile chf_profile_1
  capacity 50
  priority 30
  uri-scheme http
  version
    uri-version v1
  exit
exit
endpoint-name chf_ep1
  primary ip-address ipv4 10.102.1.151
  primary ip-address port 5082
exit
exit
endpoint-profile chf_profile_2
  capacity 50
  priority 30
  uri-scheme http
  version
    uri-version v1
  exit
exit
endpoint-name chf_ep1
  primary ip-address ipv4 10.102.1.151
  primary ip-address port 5083
exit
exit
endpoint-profile chf_profile_3
  capacity 50
  priority 30
  uri-scheme http
  version
    uri-version v1
  exit
exit
exit
endpoint-name chf_ep1
  primary ip-address ipv4 10.102.1.151
  primary ip-address port 5084
exit
exit
exit
exit
exit
```

```
profile nf-pair nf-type UDR
  nrf-discovery-group nrf-discovery-group
  subscription-enabled true
  subscription-extension 3
  locality client pcf01
  locality preferred-server loc1
  locality geo-server loc2
exit
profile nf-pair nf-type CHF
  nrf-discovery-group nrf-discovery-group
  subscription-enabled true
  subscription-extension 3
  locality client pcf01
  locality preferred-server loc1
  locality geo-server loc2
exit
service-registration services amfService
exit
service-registration services smfService
exit
//This is a mandatory parameter
service-registration profile locality pcf01
//This is a mandatory parameter
service-registration profile capacity 20
//This is a mandatory parameter
service-registration profile priority 10
//This is a mandatory parameter
service-registration profile nf-status REGISTERED
//This is a mandatory parameter
service-registration profile plmn-list 100 010
exit
//This is a mandatory parameter
service-registration profile snssais
//This is a mandatory parameter
1 sd ABCDEF
exit
group nf-mgmt nf-mgmt-grpup
  nrf-mgmt-group nrf-register-group
  locality pcf01
  failover sla 1200
  reconnect interval 100
exit
group nrf discovery nrf-discovery-group
  service type nrf nrf-disc
  endpoint-profile nrf_disc_profile_1
  capacity 10
  priority 10
  uri-scheme http
  version
  uri-version v1
  exit
exit
endpoint-name nrf_disc_ep1
  priority 1
  capacity 10
  primary ip-address ipv4 192.0.2.26
  primary ip-address port 8183
  secondary ip-address ipv4 192.0.2.19
  secondary ip-address port 8184
  tertiary ip-address ipv4 192.0.2.15
  tertiary ip-address port 8185
  exit
exit
exit
```

```
exit
group nrf mgmt nrf-register-group
service type nrf nnrf-nfm
endpoint-profile nrf_regi_profile_1
  capacity 10
  priority 10
  uri-scheme http
  version
  uri-version v1
  exit
exit
endpoint-name nrf_regi_ep1
  priority 1
  capacity 10
  primary ip-address ipv4 192.0.1.15
  primary ip-address port 8183
  secondary ip-address ipv4 192.0.3.15
  secondary ip-address port 8184
  tertiary ip-address ipv4 192.0.2.12
  tertiary ip-address port 8185
  exit
exit
exit
cdl system-id 1
cdl node-type session
cdl enable-geo-replication true
cdl zookeeper data-storage-size 1
cdl zookeeper log-storage-size 1
cdl zookeeper replica 3
cdl remote-site 2
db-endpoint host 192.0.2.24
db-endpoint port 8882
kafka-server 19.102.11.108 10091
exit
kafka-server 19.102.11.109 10092
exit
kafka-server 19.102.11.110 10093
exit
exit
cdl label-config session
endpoint key smi.cisco.com/node-type-4
endpoint value session
slot map 1
  key smi.cisco.com/node-type-4
  value session
exit
slot map 2
  key smi.cisco.com/node-type-4
  value session
exit
slot map 3
  key smi.cisco.com/node-type-4
  value session
exit
slot map 4
  key smi.cisco.com/node-type-4
  value session
exit
index map 1
  key smi.cisco.com/node-type-4
  value session
exit
index map 2
```



```
    key    smi.cisco.com/node-type-4
    value session
  exit
exit
cdl logging logger datastore.ep.session
  level debug
exit
cdl logging logger datastore.index.session
  level debug
exit
cdl logging logger datastore.slot.session
  level debug
exit
cdl datastore session
  cluster-id      1
  label-config    session
  geo-remote-site [ 2 ]
  endpoint replica 2
  endpoint external-ip 10.102.11.218
  index replica 2
  index map 2
  slot replica 2
  slot map 4
  slot notification limit 25
exit
cdl kafka replica 3
cdl kafka storage 1
cdl kafka label-config key smi.cisco.com/node-type-4
cdl kafka label-config value session
cdl kafka external-ip 10.102.11.104 10091
exit
cdl kafka external-ip 10.102.11.105 10092
exit
cdl kafka external-ip 10.102.11.106 10093
exit
system mode running
helm default-repository base-repos
helm repository base-repos
  url https://charts.10.100.11.107.nip.io/pcf.2020.05.m0.i33
exit
k8s name          cl-hawaii-s1
k8s namespace     pcf-pcf-hawaii-s1
k8s nf-name       pcf
k8s registry      docker.10.100.11.107.nip.io/pcf.2020.05.m0.i26
k8s single-node   false
k8s use-volume-claims true
k8s ingress-host-name 10.84.102.200.nip.io
k8s nodes cl-hawaii-s1-master-1
  node-type master
  worker-type master
exit
k8s nodes cl-hawaii-s1-master-2
  node-type master
  worker-type master
exit
k8s nodes cl-hawaii-s1-master-3
  node-type master
  worker-type master
exit
aaa authentication users user admin
  uid      1117
  gid      1117
  password $1$ywmCvRqU$e1ho7HLAmgfQS5LT9HAXQ.
  ssh_keydir /tmp/admin/.ssh
```

```
homedir /tmp/admin
exit
aaa ios level 0
prompt "\h> "
exit
aaa ios level 15
prompt "\h# "
exit
aaa ios privilege exec
level 0
command action
exit
command autowizard
exit
command enable
exit
command exit
exit
command help
exit
command startup
exit
exit
level 15
command configure
exit
exit
exit
nacm write-default deny
nacm groups group admin
user-name [ admin ]
exit
nacm groups group policy-admin
user-name [ admin ]
exit
nacm rule-list admin
group [ admin ]
rule any-access
action permit
exit
exit
nacm rule-list confd-api-manager
group [ confd-api-manager ]
rule any-access
action permit
exit
exit
nacm rule-list ops-center-security
group [ * ]
rule change-self-password
module-name ops-center-security
path /smiuser/change-self-password
access-operations exec
action permit
exit
rule smiuser
module-name ops-center-security
path /smiuser
access-operations exec
action deny
exit
exit
```