



Remote Browser Isolation

22.10

On-Premises Deployment Guide

© 2022 Forcepoint

Forcepoint and the FORCEPOINT logo are trademarks of Forcepoint.
All other trademarks used in this document are the property of their respective owners.

Published 03 November 2022

Every effort has been made to ensure the accuracy of this document. However, Forcepoint makes no warranties with respect to this documentation and disclaims any implied warranties of merchantability and fitness for a particular purpose. Forcepoint shall not be liable for any error or for incidental or consequential damages in connection with the furnishing, performance, or use of this manual or the examples herein. The information in this documentation is subject to change without notice.

Contents

1 Introduction	5
Deployment prerequisites.....	5
Network communication requirements.....	6
2 Deploying Forcepoint RBI	9
Deploy Forcepoint RBI.....	10
3 Post-deployment steps	23
Cipher implementation.....	23
Configure SMTP.....	24

Chapter 1

Introduction

Contents

- [Deployment prerequisites](#) on page 5
- [Network communication requirements](#) on page 6

Forcepoint Remote Browser Isolation (Forcepoint RBI) helps organizations experience a safer internet by proactively stopping web, email, and document-based threats. This document captures the prerequisites for an on-premises deployment of Forcepoint RBI. Details have been provided for recommended network port openings required for communication.

Forcepoint RBI has three major components:

- **Control Center Cluster (Master & Worker):** The Control Center cluster contains the Forcepoint RBI Admin Portal and Superadmin Portal. The Portal is responsible for policy management, user authentication, logging, dashboard, and reporting.
- **RBC Cluster (Master & Worker):** The Remote Browsing Containers (RBCs) house the remote browsers that connect to the Internet to fetch, execute, and render the content.
- **Proxy:** The proxy handles all traffic redirection from the end user's browser to the RBC.

This document provides the specifications required for the Virtual Machine and Network Communication. Refer to the *Sizing Guide* for hardware specifications for Forcepoint RBI.

Deployment prerequisites

Before deploying Forcepoint RBI in an on-premises environment, review these prerequisites.

- Virtualization platform should be based on any of the following virtualization products:
 - Virt-Manager (KVM)
 - Oracle VirtualBox
 - VMware
- Forcepoint RBI systems should be reachable from endpoint machines (end user systems).
- One IP address is to be assigned to each Forcepoint RBI component (master, worker, proxy).
- Public Wildcard SSL certificate or a Self-Signed SAN-based wild card certificate, including RBI servers IP address as SAN, is required for Forcepoint RBI. Public certificate, Private key, and CA certificates are required.
For Self-Signed certificates, install the Root CA Chain Certificate on the endpoint machines under **Trusted Root CA Authority**.
- The FQDN names of Forcepoint RBI should be resolved by the endpoint machines by following one of these options:
 - Add DNS entries for Forcepoint RBI FQDNs and URLs to the respective domain.
 - Add the FQDN entries for Forcepoint RBI in the user's endpoint machine host file (`C:\windows\system32\drivers\etc\hosts`). This requires Admin access to the endpoint machine.

- If there is a local/Internal DNS in place for resolving Intranet/Internal servers and it is configured as a DNS server in the user's endpoint machine, then create a zone for the domain of the FQDN in the Local/Internal DNS and add the host entries to it so that users can resolve the FQDNs through local/Internal DNS.
- The Forcepoint RBI instances need to be provided with DNS servers that can resolve Global domains.
- If a proxy server is in place, then the IP address and the port of the proxy server must be configured in Forcepoint RBI.
- Internet connectivity is required for setting up Forcepoint RBI and for browsing through Forcepoint RBI.
- For final deployment, the actual resource requirements are calculated based on the *Sizing Guide* and on the following:
 - User concurrency
 - Internet usage pattern
- The hardware specification requirement for production deployment will be in accordance with the *Sizing Guide*. Check the *Sizing Guide* details with your administrator or a Forcepoint representative for details on the resources required and number of VMs required for installing and configuring the Forcepoint RBI. The resource requirements are calculated based on the following:
 - User concurrency
 - Internet usage pattern
- The wildcard entry of the Forcepoint RBI base domain is to be bypassed (set exception) in the end user proxy settings.
- According to the *Sizing Guide*, RBI consists of the following components:

Admin Portal	RBC Cluster	RBI Proxy**
Master	Master	Proxy
Worker	Worker-RBC	
	Worker-File Scanning	
	Worker-Control Plane	

** RBI Proxy is applicable only in case of Proxy chaining.

- The Master and Worker for the respective cluster (Control Center and RBC) should be hosted in the same LAN segment. The Master and Workers should have no protocol or port restrictions.

Network communication requirements

Forcepoint RBI communicates with the endpoint using WebSocket on custom ports. This section shows the ports that needs to be opened for communication with Forcepoint RBI.

Connection	Required ports
Endpoint machine to Forcepoint RBI Control Center Cluster	tcp 443 (Session initialization)
Endpoint machine to Forcepoint RBI RBC Cluster (including all RBC worker nodes).	tcp 443 (Session initialization) tcp 30000 – 32767 (Secure WebSocket connection (WSS) for Remote Browsing container)

Connection	Required ports
Forcepoint RBI Cluster Communication (Control Center Cluster to RBC Cluster)	tcp 443 (RBI cluster communication)
Internet access to Forcepoint RBI Cluster (RBC Cluster to Internet)	tcp 443 (Internet access to RBC Cluster) tcp "Proxy IP & Proxy Port" (Proxy IP and Proxy port in case Internet access is provisioned through Enterprise Proxy.)
Terminal access (Admin user to Forcepoint RBI instances)	tcp 2200
Forcepoint Web Security Gateway/Proxy settings	Add base domain wildcard (e.g., *.rbi.forcepoint.com) to bypass list in end user Proxy settings.
CDR Service: API call to CDR service from Forcepoint RBI	tcp 80, 443 (destination *.threat-removal.deep-secure.com)
FTIS Service: API call to FTIS service from Forcepoint RBI	tcp 80, 443 (destination *. cloud.threatseeker.com)
Endpoint machine to LB (Admin and RBC)	443
Admin Portal LB to RBC LB	443
LB (Admin and RBC) to Masters	443

Chapter 2

Deploying Forcepoint RBI

Contents

- Deploy Forcepoint RBI on page 10

This chapter provides the instructions for deploying Forcepoint RBI in an on-premises environment.



Note

- Read the *Sizing Guide* for the hardware resources required for each VM component before beginning the deployment.
- The VMs and resources are to be provisioned based on the sizing exercise conducted to determine the total number of hardware resources (vCPU, Memory, Disk) needed. The *Sizing Guide* provides the total number of resources required as well resources required for each RBI component.
 - The maximum vCPU per VM/Physical server for Worker (for both Core and RBC) should be 64 vCPU.
 - The minimum vCPU per VM/Physical server for Worker (for both Core and RBC) should be 32 vCPU.

Based on a sample sizing, here is an illustration of the number of virtual machines required for each component:

	Admin Portal		RBC Cluster				RBI Proxy**	Final Total
	Master	Worker	Master	Worker-RBC*	Worker-File Scanning*	Worker-Control Plane*	Proxy	
vCPUs	20	36	20	1024	36	20	24	1180
Memory	80	144	80	4096	144	80	96	4720
Storage SSD (in GB)	40	180	40	1280			40	1580
DB Storage SSD (in GB)								
No.of Vms (64 vCPU each VM)	1 vm/20 vCPUs	1 vm/36 vCPUs	1 vm/20 vCPUs	16 vms/64 vCPU each	1 vm/36 vCPUs	1 vm/20 vCPUs	1 vm/24 vCPUs	
No.of Vms (32 vCPU each VM)	1 vm/20 vCPUs	1 vm/36 vCPUs	1 vm/20 vCPUs	32 vms/32 vCPU each	1 vm/36 vCPUs	1 vm/20 vCPUs	1 vm/24 vCPUs	

* During the RBI setup, specify the respective component name, that is *rbc*, *Control_plane*, or *File_scanning* in the **RBC Cluster Worker** section in the `cluster.yaml` file so that the respective labels are applied to the workers.

** RBI Proxy is applicable only in case of Proxy chaining, not applicable for URL based redirection.

- Provision the number of VMs as per the RBI sizing guide and after you have conducted the RBI sizing exercise.
- After all of the VMs are configured with IP addresses, proceed with the RBI setup.

Deploy Forcepoint RBI

This topic provides the procedure for deploying Forcepoint RBI in on-premises environments. Before deploying Forcepoint RBI, obtain the ISO from Forcepoint.

Steps

- 1) Install and deploy the Forcepoint RBI ISO obtained from Forcepoint.
- 2) Each Forcepoint RBI instance/VM is to be setup using the same ISO.
- 3) After the VM is ready, SSH to the VM using port 2200 with the login credentials (Username: maint Password: admin), and assign the static IP address to the VM.



Note

Keep a copy of the IP address, Netmask, Gateway, and DNS details. You will need these details later.

- 4) Set the IP addresses and network details:
 - a) Open a command prompt or terminal and run the following two commands:

```
# cd scripts
# sudo ./setip.sh
```

```
maint@prod-kubemaster-1:~$ cd scripts
maint@prod-kubemaster-1:~/scripts$ sudo su
root@prod-kubemaster-1:/home/maint/scripts# ./setip.sh
```

- b) Select **interface 1** or the serial number against the interface name connected to the virtual network, then press **Enter**.
- c) For **Do you want to use DHCP for this interface (y/n)**, type **n**, then press **Enter**. (Please set the static IP address)
- d) Enter the **IP Address** (for example, **192.168.2.201**), then press **Enter**. (Please select your IP address)
- e) Enter the **Subnet mask** (for example, **255.255.255.0**), then press **Enter**. (Please select your subnet mask)
- f) Enter the **Gateway** (for example, **192.168.2.1**), then press **Enter**. (Please select your gateway)

- g) Enter the **DNS IP** (for example, **8.8.8.8**), then press **Enter**. If you are entering multiple DNS IP addresses, separate the IP addresses with commas. (Please select your DNS)
- h) Repeat these steps on all required VMs.

- 5) Verify the IP address with the following command:

```
ip a
```

```
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 00:0c:29:b9:ea:d8 brd ff:ff:ff:ff:ff:ff
    inet 192.168.2.201/24 brd 192.168.2.255 scope global ens33
        valid_lft forever preferred_lft forever
    inet6 fd15:4ba5:5a2b:1002:20c:29ff:feb9:ead8/64 scope global tentative mngtmpaddr dynamic
        valid_lft 86400sec preferred_lft 14400sec
    inet6 fe80::20c:29ff:feb9:ead8/64 scope link
        valid_lft forever preferred_lft forever
```

- 6) Shut down the VM, then start the VM again.

```
sudo shutdown -h now
```



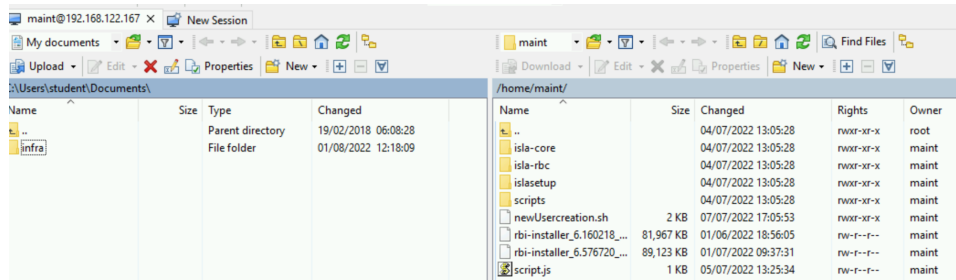
Note

- Make sure all the VMs required for the RBI components are created before you proceed with RBI setup and installation.
- Note down the IP address of all the VMs in a spread sheet.
- To relate the VMs to the RBI components, tag the respective VMs against the respective RBI component.
- Use one of the primary VMs from the RBI Admin portal Master component to download the RBI deb package and run the setup.
- Before running the RBI setup, make sure all the VMs are powered ON and reachable via port 2200.

- 7) SSH to the primary VM (Admin Portal Master VM) using port 2200 with the login credentials (Username:maint Password: admin).

- 8) Use WinSCP or scp to copy the archived infra file to Core master - `/home/maint`, that is provided by Forcepoint.

For Windows:



For Mac/Linux:

- To copy the `infra.tgz` file to Core master IP, run the following command:

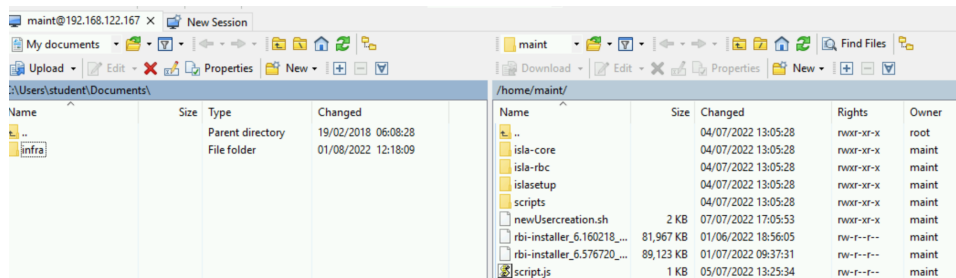
```
scp -r -P 2200 infra.tgz maint@<core_master_ip>:~/.
```

- To SSH to Core master and then untar the tar file, run the command:

```
tar xf infra.tgz
```

- 9) Use WinSCP or scp to copy the `mkauth` file to Core master - `/home/maint/infra/islasetup/keys/`, that is provided by Forcepoint.

For Windows:



For Mac/Linux:

- To copy the `mkauth` file to Core master IP, run the following command:

```
scp -r -P 2200 mkauth maint@<core_master_ip>:/home/maint/infra/islasetup/keys/
```

- 10) To make the `mkauth` file executable, run the following command:

```
chmod +x /home/maint/infra/islasetup/keys/mkauth
```

- 11) Update `/home/maint/infra/islasetup/cluster.yaml` with the following required details:

```
nano /home/maint/infra/islasetup/cluster.yaml
```

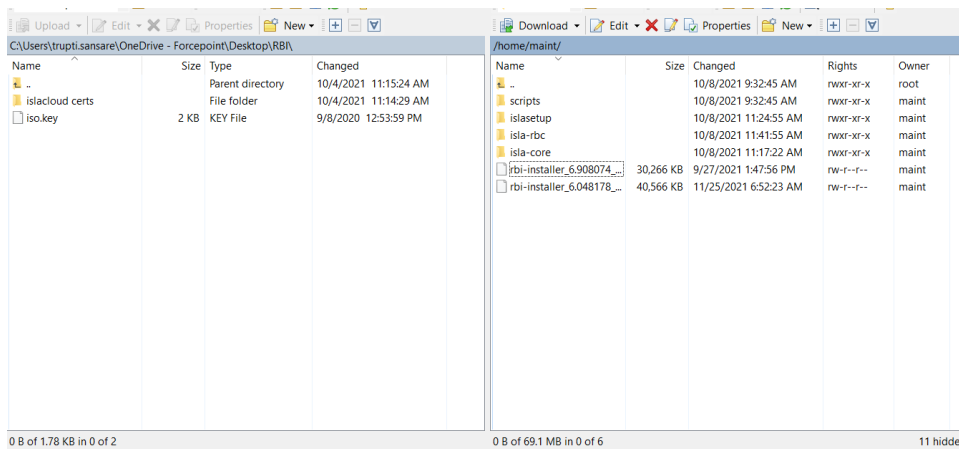
- a) Add the client certificates.

```
kubernetes:
  certs:
    publickey: keys/fp.dev.crt
    privatekey: keys/fp.dev-domain.key
    ca: keys/fp.dev-CA.crt
```



Note

Use WinSCP or the `scp` command to copy the required certificate and key to `/home/maint/infra/islasetup/keys`.



- b) Add the Core master node 1 IP address (Admin Portal Master VM IP address):

```
masters:
- node: 1
  ip: 192.168.122.160
  sshport: 2200
  sshuser: maint
  reset: 0
  podsubnet: 10.244.0.0/16
```



Note

- The podsubnet defined is default and is used by Kubernetes for internal or interpod communication.
- It is recommended not to change the podsubnet unless there is a conflict with the subnet or network of your core masters or workers, RBC masters or workers, or end user network segment from where the user is accessing or browsing through RBI. The IP address of the master or worker is defined in the cluster.yaml file, and the IP address of the end user network must be different from that of the podsubnet network.
- In case, if you want to change the podsubnet because there is a conflict with your other subnet or network. It is must to configure a preferred subnet with /16 Classless Inter-Domain Routing (CIDR).



Note

For Single cluster Multi master setup (Core master IPs = RBC master IPs),

Prerequisites:

- It is recommend that you use your own Load Balancer. If you want to setup the RBI Load Balancer, then follow the below steps:
 - i) Go to script placed in `/home/maint/infra/islasetup/helperscripts/archive/loadbalancer.sh`
 - ii) Run it on the server you want to configure as the Load Balancer in below format:

```
./loadbalancer.sh lbip,master1_ip,matesr2_ip,master3_ip
```

- Three Master VM Nodes are required
Perform the below steps in `cluster.yaml`

- i) Add the Load Balancer IP in `cluster.yaml`.

```
loadbalancer:
  ip: "192.168.122.100"
```

- ii) Add two more Master node entries.

```
masters:
- node: 1
  ip: 192.168.122.220
  sshport: 2200
  sshuser: maint
  reset: 0
  podsubnet: 10.244.0.0/16
- node: 2
  ip: 192.168.122.232
  sshport: 2200
  sshuser: maint
  reset: 0
  podsubnet: 10.244.0.0/16
- node: 3
  ip: 192.168.122.188
  sshport: 2200
  sshuser: maint
  reset: 0
  podsubnet: 10.244.0.0/16
```

- c) Add the Core worker node 1 IP address (Admin Portal Worker VM IP address):

```
workers:  
- node: 1  
  ip: 192.168.122.231  
  sshport: 2200  
  sshuser: maint  
  reset: 0
```

If there are multiple workers, add entries for each worker (for example, from node to reset for each worker).

```
workers:  
- node: 1  
  ip: 192.168.122.186  
  sshport: 2200  
  sshuser: maint  
  reset: 0  
- node: 2  
  ip: 192.168.122.200  
  sshport: 2200  
  sshuser: maint  
  reset: 0
```

- d) Add the RBC master node 1 IP address (RBC Cluster Master VM IP address):

```
masters:
- node: 1
  ip: 192.168.122.220
  sshport: 2200
  sshuser: maint
  reset: 0
  podsubnet: 10.244.0.0/16
```



Note

- In case of Single cluster Multiple master setup (Core master IP Addresses = RBC masters' IP Addresses), add 2 more master entries under RBC cluster.
- The podsubnet defined is default and is used by Kubernetes for internal or interpod communication.
- It is recommended not to change the podsubnet unless there is a conflict with the subnet or network of your core masters or workers, RBC masters or workers, or end user network segment from where the user is accessing or browsing through RBI. The IP address of the master or worker is defined in the cluster.yaml file, and the IP address of the end user network must be different from that of the podsubnet network.
- In case, if you want to change the podsubnet because there is a conflict with your other subnet or network. It is must to configure a preferred subnet with /16 Classless Inter-Domain Routing (CIDR).

```
rbc:
  masters:
  - node: 1
    ip: 192.168.122.41
    sshport: 2200
    sshuser: maint
    reset: 0
  - node: 2
    ip: 192.168.122.42
    sshport: 2200
    sshuser: maint
    reset: 0
  - node: 3
    ip: 192.168.122.43
    sshport: 2200
    sshuser: maint
    reset: 0
```


- e) Add the RBC worker node 1 IP address (RBC Cluster Worker VM IP address):

```
workers:
- node: 1
  ip: 192.168.122.130
  sshport: 2200
  sshuser: maint
  reset: 1
  component: #component can have values "rbc" or "Control_plane" or "File_scanning"
```

If there are multiple workers, add entries for each worker (for example, from node to reset for each worker).

```
workers:
- node: 1
  ip: 192.168.122.130
  sshport: 2200
  sshuser: maint
  reset: 0
  component: rbc
- node: 2
  ip: 192.168.122.131
  sshport: 2200
  sshuser: maint
  reset: 0
  component: Control_plane
- node: 3
  ip: 192.168.122.132
  sshport: 2200
  sshuser: maint
  reset: 0
  component: File_scanning
- node: 4
  ip: 192.168.122.133
  sshport: 2200
  sshuser: maint
  reset: 0
  component: #
```



Note

- During the RBI setup, specify the respective component name, that is *rbc*, *Control_plane*, or *File_scanning* for the **RBC Cluster Worker** node so that the respective labels are applied to the workers. If the component field is left blank, then all the component roles (*rbc*, *Control_plane*, and *File_scanning*) are applied to all RBC workers.

- f) Add cluster information. For example:

```
data:
  core:
    valuepath: values-on-prem.yaml ( File which needs to be used for
helm core installation)
    releasename: core (Name of the release for core)
    version: default with the version that needs to be deployed
    pvtype: nfs
    reset: 0
  rbc:
    location: 1 ( Based on the region. USA = 1, UK = 2)
valuepath: values-on-prem.yaml ( File which needs to be used for helm rbc installation)
    releasename: rbc (Name of the release for rbc)
    version: default with the version that needs to be deployed
    pvtype: nfs
    reset: 0
```

```
helm:
cluster:
core:
valuepath: values-core.yaml
releasename: core
version: 2022.07.70
pvtype: nfs
reset: 0
rbc:
location: 1
valuepath: values-rbc.yaml
releasename: rbc
version: 2022.07.28
pvtype: nfs
reset: 0
```



Note

If the Core Master and RBC Master IP addresses are the same, then select **values-core-single.yaml** instead of **values-core.yaml** for core and select **values-rbc-single.yaml** instead of **values-rbc.yaml** for RBC.

- g) Add database password (Default password is test123# encoded to base64).

```
database:
dbuser: isla
dbpass: dGVzdDEyMyMK
```

- h) Add super admin details under the data tag. For example:

```
data:
superadmin:
name: rbiadmin (This will become the superadmin url e.g. https://
rbiadmin.secureinc.org
email: admin@secureinc.org (Administrators email address)
password: Default password is "Welcome123#" encoded to base64.
```

```
data:
superadmin:
name: rbiadmin
email: admin@secureinc.org
password: V2VsY29tZTEyMyMK
```

i) Add tenant details under the data tag. For example:

```
tenants:
  host: rbi (This will become the tenant url e.g. https://rbi.secureinc.org
  squidport: squidport is to be defined only if RBI is to be deployed in a
    proxy chaining mode(as a parent proxy or upstreaming proxy to
    Customer's existing proxy). For example, if you want to host
    the RBI proxy on port 3134 then define 3134 against squidport.
    Squid certificate needs to be installed on the customers
    existing proxy(child proxy). Certificate can be found at
    /home/maint/infra/islaproxy and file is squid-ca-cert-key.pem
    Note: If you already have RBI deployed without RBI proxy and
    want to deploy RBI proxy component only post RBI deployment
    then edit the cluster.yaml file in the infra/islasetup directory,
    specify the squid port, save the cluster.yaml file and then
    run ./squid.sh cluster.yaml. This will install RBI proxy component.
    Once the RBI proxy component is installed, the RBI proxy is
    accessible on Core Clusters Master IP and the specified squidport
    for example: 192.168.122.41:3134 (if the squidport specified as
    3134 in cluster.yaml).
  icapport: for icap the default port is set to 1344. It is recommended not
    to change the icap port unless you want to Integrate RBI with your
    existing On-premises proxy with icap/icaps. To integrate RBI with
    existing On-premises Proxy for icap/icaps based integration, ensure
    that your existing proxy supports icap/icaps. To integrate with
    icaps, define port 11344 in the cluster.yaml configuration, also
    ensure to obtain the RBI ICAP Integration guide to configure your
    On-premises proxy for icap/icaps based integration for RBI.
  email: admin@rbiinc.org (Administrators email address)
  password: Default password is "Welcome123#" encoded to base64.
```

```
tenants:
- host: rbi-tenant-hb
  name: Rbi-tenant-hb
  squidport: 3130
  icapport: 1344 ##1344 or 11344
  admin:
    name: Rbi-tenant
    email: admin@rbi-tenant.org
    password: V2VsY29tZTEyMyMK
```

**Note**

Based on the selection for squidport and icapport, have the port open accordingly.

j) Add the tenant hostname in appliance-rbi:

```
appliances:
- name: appliance-rbi
  tenanhost: rbi
  minnodes: 2
  maxnodes: 2
  racversion: ract-direct:r89-5.5.11
  racurl: https://rbc-cluster-down.fp.dev
```

k) Add the **rac-url** (RBI server url) in **appliances-racurl**. Also, based on the license, modify the **minnodes** and **maxnodes**. For example, if the license is for 1,000 sessions, then minnodes can be 100 and maxnodes can be 1000.

```
minnodes: 2
maxnodes: 2
racversion: ract-direct:beta-92-6.0.3
racurl: rbc-cluster-gg.fp.dev
```

- l) To add additional custom or self-signed root certificate authority to a remote browser container, add the custom CA certificates in the `/home/maint/infra/islasetup/keys/racCA` folder. Also, specify the names of the certificates under the **racca** section, in the `cluster.yaml` file.

```
racca:
- forcepoint.com-CA.crt
- fp.dev-CA.crt
- fp-rbi-go4labs-net-CA.crt
```



Note

- i) If there are multiple CA certificates that needs to be added, specify it serially as displayed in the image above.
- ii) All the unencrypted CA certificates must be added in the `/home/maint/infra/islasetup/keys/racCA` folder.

- m) If the deployment happens behind the proxy, add the following details under the **Clientproxy** section:

```
Clientproxy
Cert: The path of client proxy certs, if applicable
IP: IP address of the client proxy
Port: Proxy port number
User: If proxy is user based authenticated, then add the user name
Password: If proxy is user based authenticated, then add the proxy password encoded to base64
```

```
env:
clientproxy:
cert: ""
ip: 192.168.122.3130
port: 8888
user: user
password: V2VsY29tZTEyMyM=
bypass: fp.dev
```



Note

To do deployment behind the proxy, on the proxy set the SSL interception to **OFF**.

- 12) Run the `islasetup` from `/home/maint/infra/islasetup`.

```
./islasetup cluster.yaml
```



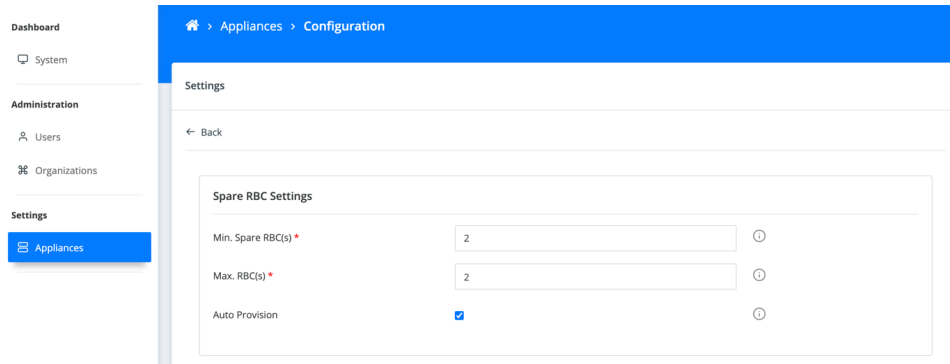
Note

- In case if you want to reset the deployment, consider the following points:
 - a) If the deployment is AllinOne (Core Master = Core Worker = RBC Master = RBC Worker), then set the **reset** value to 1 for Core Master, Core helm and RBC helm.
 - b) If you want to reset helm, then set the **reset** value to 1 for both the Core helm and RBC helm.
 - c) If the Core Master is not same, when compared to both the Core Worker and the RBC Master, then set the **reset** value to 1 for the Core Master, Core Worker, RBC Master, RBC Worker, Core helm and RBC helm.

- 13) Add the required host file entries in end user system if DNS is not added to the public domain. For example:

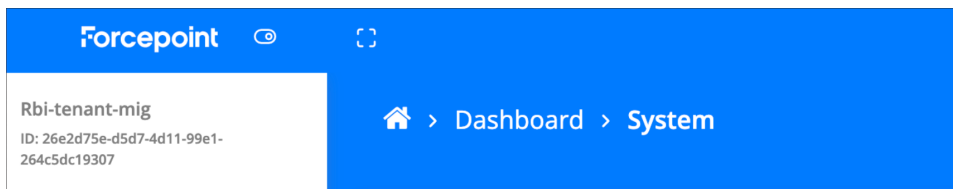
```
Core Master ip rbiadmin.secureinc.org rbi.secureinc.org
RBC Master ip rbi-cluster.secureinc.org
RBC Worker1 ip(say x.x.x.x) rbchost-x-x-x-x.secureinc.org
RBC Worker2 ip(say y.y.y.y) rbchost-y-y-y-y.secureinc.org
```

- 14) After the installation, sign in to the Forcepoint RBI superadmin portal and select **Auto Provision** under **Settings > Appliances**.



- 15) Login to **Admin Portal > Accept the EULA > Enter license key** obtained from Forcepoint operations team.

- 16) For anonymous browsing, the URL will be `https://<replace_With_tenant_url>/viewer/loader?tenantId=<replace_with_tenantid>&username=<replace_with_username>url=<replace_with_site_navigate>`. The Tenant ID can be found in the Forcepoint RBI Admin Portal.



Post-deployment steps

Contents

- Cipher implementation on page 23
- Configure SMTP on page 24

As part of the post-deployment steps, this chapter discusses cipher implementation, and configuring SMTP.

Cipher implementation

This topic provides the procedure for implementing the Forcepoint-approved ciphers.

Steps

- 1) SSH to the Core Master and edit kubelet config.yaml:

```
sudo vim /var/lib/kubelet/config.yaml
```

- 2) Add the following content to the end of the file:

```
tlsCipherSuites: [TLS_ECDHE_ECDSA_WITH_CHACHA20_POLY1305,  
TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305,TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256,  
TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256,TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384,  
TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384]
```

```
streamingConnectionIdleTimeout: 0s  
syncFrequency: 0s  
volumeStatsAggPeriod: 0s  
tlsCipherSuites: [TLS_ECDHE_ECDSA_WITH_CHACHA20_POLY1305,TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305,TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256,TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256,TLS_EC  
DHE_ECDSA_WITH_AES_256_GCM_SHA384,TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384]
```

- 3) Restart kubelet.service:

```
sudo systemctl restart kubelet.service
```

- 4) Edit kube-apiserver.yaml:

```
sudo vim /etc/kubernetes/manifests/kube-apiserver.yaml
```

- 5) Add the following content at the end of the **Command** section:

```
- --tls-cipher-suites=TLS_ECDHE_ECDSA_WITH_CHACHA20_POLY1305,
  TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305,TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256,
  TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256,TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384,
  TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384
```

```
tls-private-key:/etc/kubernetes/pki/apiclient.key
- --tls-cipher-suites=TLS_ECDHE_ECDSA_WITH_CHACHA20_POLY1305,TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305,TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256,TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256,TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384,TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384
image: k8s.gcr.io/kube-apiserver:v1.20.13
imagePullPolicy: IfNotPresent
```

- 6) Check that the nodes are up:

```
kubectl get node
```

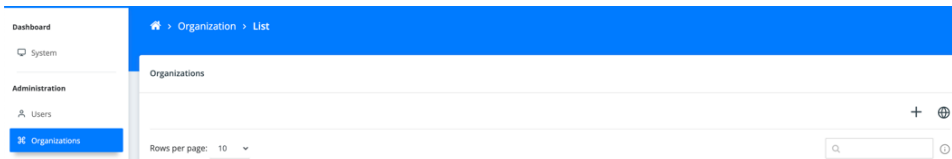
- 7) Repeat these cipher implementation steps for all Masters.

Configure SMTP

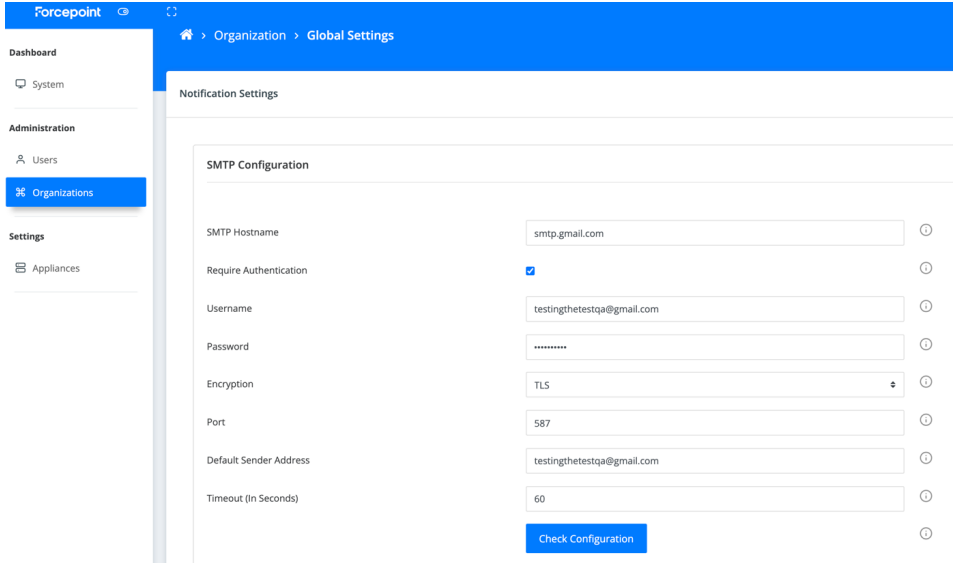
Simple Mail Transfer Protocol (SMTP) configuration enables email notifications to administrators through the Forcepoint RBI Portal.

Steps

- 1) Sign in to the Forcepoint RBI superadmin portal and go to **Organizations**.
- 2) Click the globe icon to open Global Settings.



- 3) In **Global Settings**, enter the SMTP configuration shown in the following image:



The screenshot shows the Forcepoint Global Settings page. The left sidebar contains navigation options: Dashboard, System, Administration (Users, Organizations), and Settings (Appliances). The main content area is titled 'Notification Settings' and contains an 'SMTP Configuration' section. The configuration fields are as follows:

Field	Value
SMTP Hostname	smtp.gmail.com
Require Authentication	<input checked="" type="checkbox"/>
Username	testingthetestqa@gmail.com
Password	*****
Encryption	TLS
Port	587
Default Sender Address	testingthetestqa@gmail.com
Timeout (In Seconds)	60

A 'Check Configuration' button is located at the bottom right of the configuration section.

- 4) Click **Check Configuration**. If the entered configuration settings are correct, then a **SMTP Configured Successfully** banner is shown at the top of the portal.



Note

If you are configuring a Gmail account to set up SMTP in the Control Center, then you need to enable **Less Secure App Access** under the account settings in Google.

