Install Banyan Shield

Manually installing Shield for an Org

Updated on

Note: If your organization uses a Managed Shield hosted by Cloud Secure Edge's Software-As-A-Service, you do not need to install Shield yourself. Instead, use the Command Center to create and check your clusters.

Pre-install Checklist

1. Ensure you have an organization and account set up on the Command Center
2. Shield is distributed as a set of Docker containers; run it on a Linux Host with a recent version of Docker
3. You can run Shield on any machine with connectivity to both the Enforcement Components (Netagent, Access Tier) and the Controller
4. If you're using a Cluster Manager, we recommend you run Shield on your Cluster Manager master machines

Install

```
# download and unzip the files
wget https://www.banyanops.com/netting/deploy-shield-ca-1.57.0.tar.gz
tar zxvf deploy-shield-ca-1.57.0.tar.gz
cd deploy-shield-ca-1.57.0

# update start-shield-ca.sh to have the right parameters
#   ORG_NAME=               # organization name, available in your Web Console
#   ORG_ID=                 # a 32-char string available in your Web Console
#   CM=none                 # set to none
#   CNAME=                  # pretty name for your cluster
#   TLSNOVERIFY=false       # set to false
#   GROUPTYPE=              # metadata about cluster, ex: prod, test, stage
#   RESTARTPOLICY=unless-stopped  # set to unless-stopped
#   BANYAN_URL=https://net.banyanops.com:443/api_server_host_v1  # set to your Controller U

vi start-shield-ca.sh

# you can now start shield
```

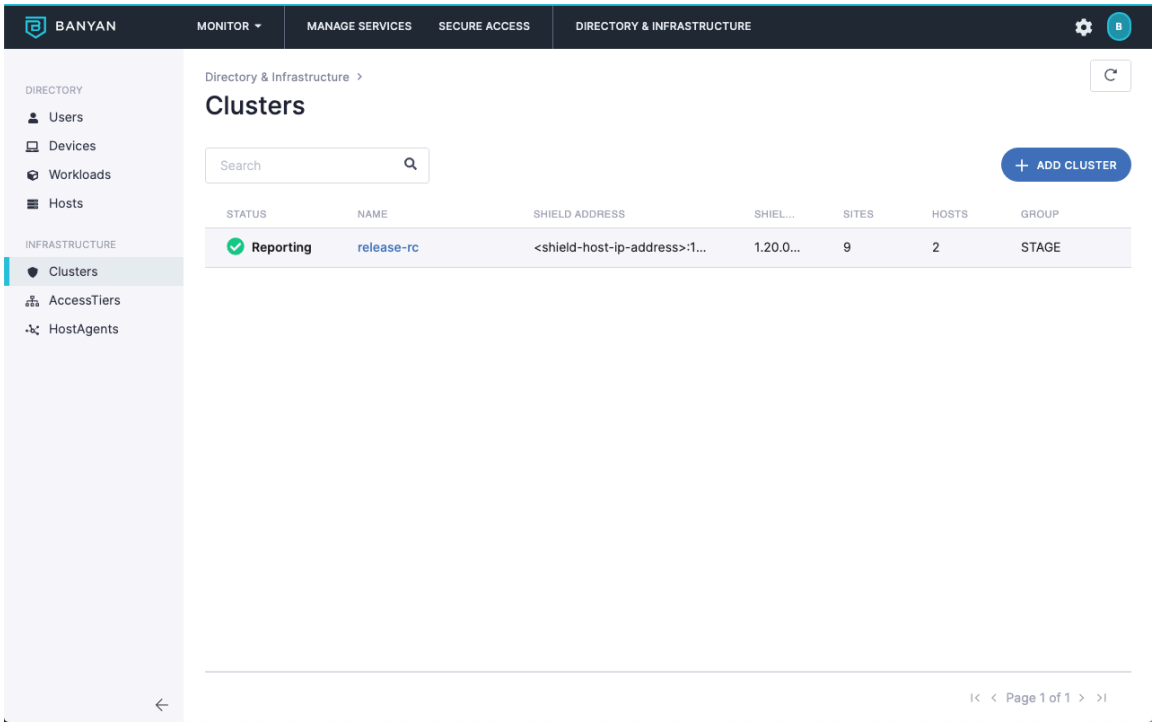
```
./start-shield-ca.sh

# to stop shield (and in general, use this to cleanup containers, etc.)
./stop-shield-ca.sh
```

The first time you run Shield, you might want to generate a brand new self-signed Root CA key-pair. You can generate a new Root CA key-pair so by starting up shield with `./start-shield-ca.sh true`.

Verify Installation

Once Shield starts up correctly, you can view its details in the **Directory & Infrastructure** > **Infrastructure** > **Clusters** section of the Command Center.



Directory & Infrastructure - Clusters

Configuring your Internal Certificate Authority

By default, Shield uses a **self-signed BNN Root CA** that serves as the Issuing CA. The BNN Root CA key-pair is stored the file system on the Shield Host VM in the `deploy-shield-ca-0.X.Y/etc/banyan-ca/` folder.

You can generate a new self-signed BNN Root CA key-pair at any time by running `./start-shield-ca.sh true`.

You can instead use your organization's Private Certificate Authority. Overwrite the `ca.pem` and `ca_key.pem` files in the `etc/banyan-ca/` path with your Private CA's certificate and private key respectively.

To pick up any new CA settings, you have to stop and then start Shield.

Production Deployment - Scaling Shield

Follow these steps to ensure Shield is ready for production deployment.

1. Right-size the Shield Host for your cluster environment

Ensure Shield has enough CPU and Memory to manage the Netagent deployed on hosts across your cluster.

The table below provides a rough estimate for the size of your Shield Host for typical cluster setups.

Number of Hosts	Containers per Host	Links per Container	Recommended CPUs	Recommended RAM
<100	< 5	< 10	2	8GB
100 - 500	5 - 10	10 - 20	4	16GB
500 - 1000	10 - 20	20 - 40	8	32GB

If you have >1000 hosts, we recommend you set up a second Shield for your cluster.

2. Ensure the Shield Host restarts upon failure

The Shield agent only has “soft” state and the CSE architecture is robust to Shield failures. Configure the Shield Host to restart upon host failure so that Shield is never unavailable for a long period of time.

Please note that in Kubernetes environments, the Shield Pod is pre-configured to restart.

3. High-availability multi-region Shield deployment

Shield can be deployed in ultra-high availability mode across multiple regions and availability zones. You can utilize Autoscaling Groups as well as Hot Spare architectures. Please contact us for specific details.

Production Deployment - Upgrading Shield

To upgrade a running Shield with a new version, follow these steps.

1. Make a note of the files used by Shield

Files used by Shield	Purpose
`start-shield-ca.sh`	Shield settings, Controller location, OrgID
`etc/*`	Issuing CA key-pair

   The auth token used to communicate with the Controller is stored in `$LOGDIR/shield/token.json`; `LOGDIR` is set in `start-shield-ca.sh` to typically be `$HOME/.banyan`. You don’t need to touch this file.

2. Download new Shield, untar it and copy over files and settings

We often add new settings to Shield, so please take note of those.

Copy over the files and settings used by current running Shield to the new Shield version.

3. Stop current running containers and start up the new version

```
cd $old_shield_path
./stop-shield-ca.sh

cd $new_shield_path
./start-shield-ca.sh
```

SONICWALL
CLOUD SECURE EDGE

Site generated at YYYYMMDD

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