

Project Infrastructure Description

Document

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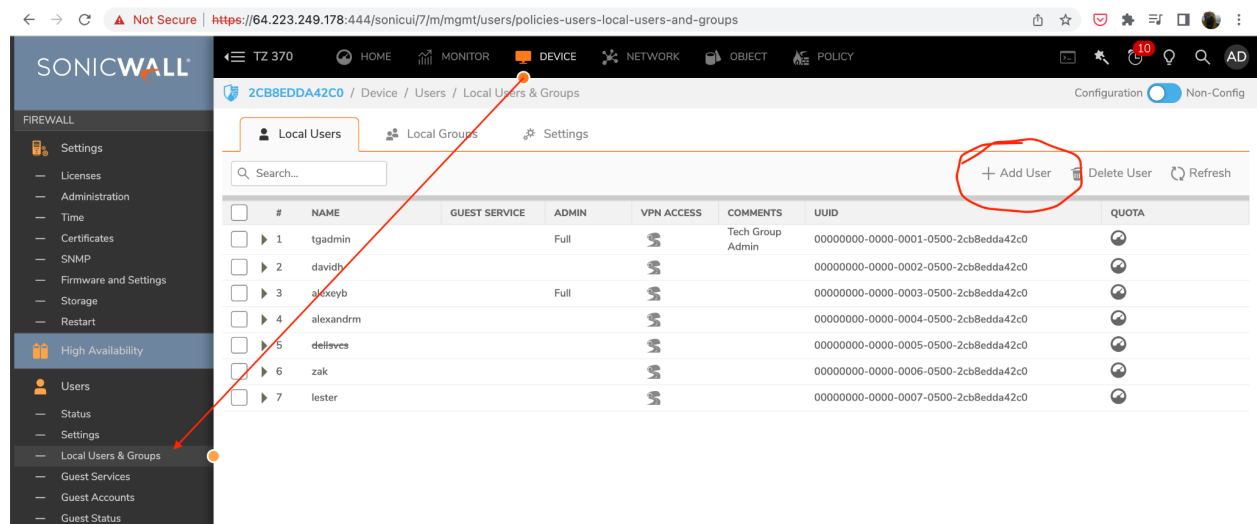
1. Juniper Firewall login

<https://64.223.249.178:444>



1.1 adding a new VPN user

Follow Device -> Users -> Local Users & Groups
and then “Add user” in the upper right corner



it is necessary to fill in the fields: name, password and confirm password, email.
In the "One-time password method" field, select "TOTP"

User Settings

Settings

Groups

VPN Access

User Quota

GENERAL SETTINGS

This represents a domain user

Name

Enter Name...

Password

Enter password...

Confirm Password

Confirm password...

User must change password

One-time password method

TOTP

Unbind Totp Key

E-mail Address

Enter email...

Account Lifetime

Never Expires

Comment

Enter comment ...

Cancel

Save

on the "Groups" tab, need to add the "SSLVPN Services" group

User Settings

Settings

Groups

VPN Access

User Quota

GROUP MEMBERSHIPS

Available User Groups6 items

Content Filtering Bypass

Guest Administrators

Guest Services

Limited Administrators

SonicWALL Administrators

SonicWALL Read-Only Admins

Selected User Groups3 items

Everyone

SSLVPN Services

Trusted Users

Selected: 3 of 9 items

Cancel

Save

before connecting for the first time, you must to set TOTP MFA for the VPN
visit <https://64.223.249.178:4433> to setup your MFA App

2. Dell iDRAC for server remote control

The screenshot displays the Dell iDRAC9 Enterprise web interface. The top navigation bar includes links for Dashboard, System, Storage, Configuration, Maintenance, and iDRAC Settings. The main content area is divided into several sections:

- Dashboard:** Features buttons for Graceful Shutdown, LED On, and More Actions.
- Health Information:** A green banner indicates "SYSTEM IS HEALTHY". Below it, System Health and Storage Health are both marked as "Healthy".
- System Information:** A table listing system details:

Power State	On
Model	PowerEdge C6420
Host Name	
Operating System	
Operating System Version	
Service Tag	BSD1BR3
BIOS Version	2.16.1
iDRAC Firmware Version	6.10.00.00
IP Address	172.17.0.11
iDRAC MAC Address	b8:cb:29:ec:52:37
License	Enterprise Edit
- Task Summary:** Shows job counts: Pending Jobs: 0, In-Progress Jobs: 0, and Completed Jobs: 25 (0 with Errors, 0 Failed).
- Recent Logs:** A table of system events:

Severity	Description	Date and Time
Error	System BIOS has halted.	Wed Dec 14 2022 19:48:50
Error	System BIOS has halted.	Wed Dec 14 2022 19:27:26
Error	System BIOS has halted.	Thu Dec 08 2022 03:33:32
Error	System BIOS has halted.	Thu Dec 08 2022 03:19:44
Error	System BIOS has halted.	Wed Dec 07 2022 18:39:45
Error	System BIOS has halted.	Wed Dec 07 2022 17:32:41
Success	The power supplies are redundant.	Tue Nov 15 2022 12:13:32
- Virtual Console:** A section for remote server control, currently showing a black screen.

2.1 checking server disks

2.2 configuring server alerts

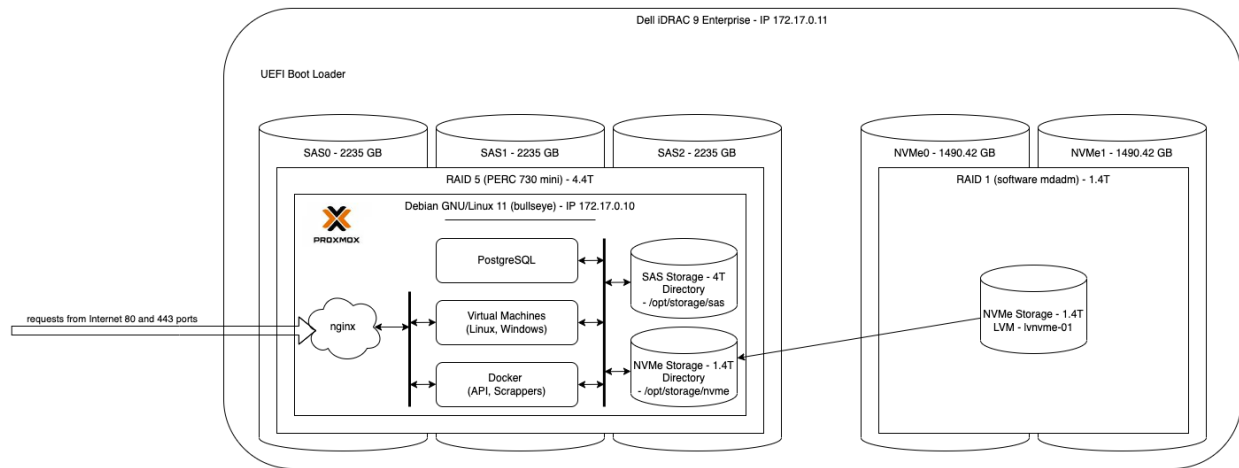
2.3 remote control of the server's base OS

3. Main OS - ProxMox 7.3.3 (Debian GNU/Linux 11 (bullseye))

ssh root@172.17.0.10

```
root@bio-hvm-01 /etc/nginx/conf.d $ hostnamectl
  Static hostname: bio-hvm-01
    Icon name: computer-server
    Chassis: server
    Machine ID: bfef8126abb2444f8dcc40ffa5d03c9f
    Boot ID: 8e9113c67782473984c37026516238e3
  Operating System: Debian GNU/Linux 11 (bullseye)
    Kernel: Linux 5.15.74-1-pve
  Architecture: x86-64
root@bio-hvm-01 /etc/nginx/conf.d $ nano ~/.ssh/authorized_keys
root@bio-hvm-01 /etc/nginx/conf.d $ clear
root@bio-hvm-01 /etc/nginx/conf.d $ hostnamectl
  Static hostname: bio-hvm-01
    Icon name: computer-server
    Chassis: server
    Machine ID: bfef8126abb2444f8dcc40ffa5d03c9f
    Boot ID: 8e9113c67782473984c37026516238e3
  Operating System: Debian GNU/Linux 11 (bullseye)
    Kernel: Linux 5.15.74-1-pve
  Architecture: x86-64
root@bio-hvm-01 /etc/nginx/conf.d $ df -h
Filesystem                Size      Used Avail Use% Mounted on
udev                     32G         0   32G   0% /dev
tmpfs                    6.3G       2.6M   6.3G   1% /run
/dev/mapper/pve-root      94G       46G   44G  52% /
tmpfs                    32G       46M   32G   1% /dev/shm
tmpfs                    5.0M         0   5.0M   0% /run/lock
/dev/sda2                511M      348K   511M   1% /boot/efi
/dev/fuse                 128M       16K   128M   1% /etc/pve
/dev/mapper/nvme--01-lvnmvme--01 1.5T      187G   1.2T  14% /opt/storage/nvme
/dev/mapper/pve-lvsas--01 4.3T      136G   3.9T   4% /opt/storage/sas
overlay                   94G       46G   44G  52% /var/lib/docker/overlay2/44c100fd0ba9d202a135831f1ee56eaa0ee89ab01a8a2aa6f02387c74a114d2e/merged
overlay                   94G       46G   44G  52% /var/lib/docker/overlay2/b034d52ff15618d909c6f5586b4fa32cfece7a88ce8757a4991fed44ce5a3cd3/merged
overlay                   94G       46G   44G  52% /var/lib/docker/overlay2/77a01f87d24041867ffc902d35986e0527fc4754ad6072bf69e9ade9c15bc830/merged
tmpfs                    6.3G         0   6.3G   0% /run/user/0
overlay                   94G       46G   44G  52% /var/lib/docker/overlay2/01522c52fba46e11b5ca37b0fbc3f1e1e246b5c03cd74b134c89bc645ed24003/merged
overlay                   94G       46G   44G  52% /var/lib/docker/overlay2/98be20522f4677bdd658b2cf29465634adff8c2050658c012725e0f555dbcfb9/merged
root@bio-hvm-01 /etc/nginx/conf.d $ free -h
               total        used        free      shared  buff/cache   available
Mem:           62Gi        27Gi        6.0Gi       132Mi       28Gi       34Gi
Swap:          8.0Gi        428Mi        7.6Gi
root@bio-hvm-01 /etc/nginx/conf.d $ ip a |grep vmb0
2: eno16: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq master vmb0 state UP group default qlen 1000
3: vmb0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default qlen 1000
    inet 172.17.0.10/24 scope global vmb0
138: fwpr100p00fwlwi00i0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master vmb0 state UP group default qlen 1000
root@bio-hvm-01 /etc/nginx/conf.d $ lscpu
Architecture:                x86_64
CPU op-mode(s):              32-bit, 64-bit
Byte Order:                  Little Endian
Address sizes:               46 bits physical, 48 bits virtual
CPU(s):                      32
```

3.1 diagram of system components



3.2 Proxmox hypervisor management

3.3 creating/starting/stopping virtual machines in Proxmox

3.4 data storages in Proxmox

3.5 data backup

4. Docker runtime service on main OS for Linux containers

```
root@bio-hw-01: /etc/nginx/conf.d $ clear
root@bio-hw-01: /etc/nginx/conf.d $ docker ps -a
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS                               NAMES
d1958c42c24   gitlab/gitlab-ce:15.6.2-ce.0       "/assets/wrapper"       13 days ago   Up 13 days   443/tcp, 0.0.0.0:2022->22/tcp, :::2022->22/tcp, 0.0.0.0:8091->80/tcp, :::8091->80/tcp   gitlab
d61380b12221   mcr.microsoft.com/mssql/server:2019-latest "/opt/mssql/bin/perm..." 2 weeks ago   Up 2 weeks   0.0.0.0:1433->1433/tcp, :::1433->1433/tcp   db.mssql2019
d1e51f64304f   zabbix/zabbix-web-nginx-mysql:ubuntu-6.2-latest "docker-entrypoint.sh"   8 weeks ago   Up 8 weeks   0.0.0.0:9091->8080/tcp, :::9091->8080/tcp, 0.0.0.0:9443->8443/tcp, :::9443->8443/tcp   zabbix-docker-zabbix-web-nginx-mysql-1
b7350ce1436e   zabbix/zabbix-server-mysql:ubuntu-6.2-latest "/usr/bin/tini -- /u..." 8 weeks ago   Up 8 weeks   0.0.0.0:10051->10051/tcp, :::10051->10051/tcp   zabbix-docker-zabbix-server-1
b1e6db1e5fe   mysql:8.0-oracle                    "docker-entrypoint.s..." 8 weeks ago   Up 8 weeks   0.0.0.0:10051->10051/tcp, :::10051->10051/tcp   zabbix-docker-mysql-server-1
root@bio-hw-01: /etc/nginx/conf.d $
```

4.1 project services launched in docker

the following services are running in docker:

gitlab - code storage and collaboration system - <https://gitlab.biointelli.com/>

db_mssql2019 - Ms SQL 2019 database for the web-portal - 172.17.0.10:1433

*zabbix-docker-** - server monitoring system for tracking the main server parameters

(cpu/disks/ram) - <http://172.17.0.10:9091/>

4.2 docker commands to start/stop services

4.3 data backup

5. Gitlab and pipelines for automatic application building

5.1 Gitlab management interface

6. Other services for the project

6.1 Auxiliary services for working with the MSSQL database

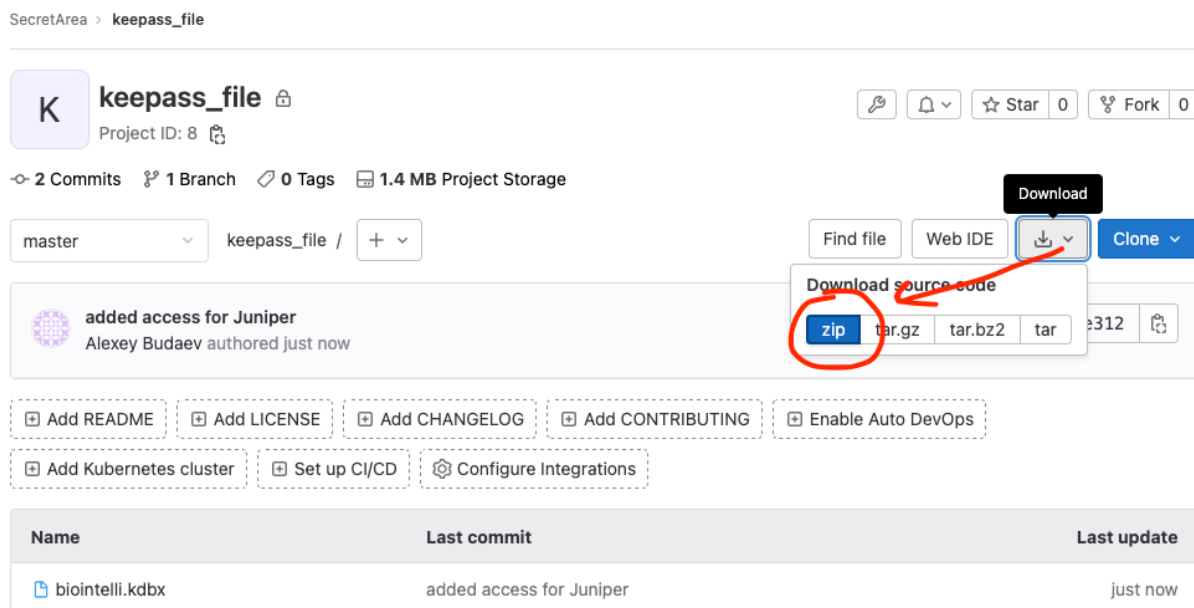
6.

7. Encrypted database with passwords for the Biointelli infrastructure

All accesses for services in the Biointelli infrastructure are stored in an encrypted KEEPASS format database in the Gitlab repository at:

https://gitlab.biointelli.com/secretarea/keepass_file

To save the encrypted database file to your computer's disk, select "Download" -> zip and the file download will begin



The screenshot shows the GitLab repository page for 'keepass_file'. The page includes a header with the repository name, project ID, and statistics (2 Commits, 1 Branch, 0 Tags, 1.4 MB Project Storage). Below the header, there are buttons for 'Find file', 'Web IDE', 'Download', and 'Clone'. The 'Download' button is highlighted with a red circle, and a dropdown menu is open showing options: 'zip', 'tar.gz', 'tar.bz2', and 'tar'. The 'zip' option is circled in red. Below the download options, there is a section for 'added access for Juniper' by Alexey Budaev. At the bottom, there is a table with columns 'Name', 'Last commit', and 'Last update'.

Name	Last commit	Last update
biointelli.kdbx	added access for Juniper	just now

Then you need to unpack the zip file and open the biointelli.kdbx with any KEEPASS client downloaded from the site - <https://keepass.info/download.html>