Versioning

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15 March, 2022	DevOps Documentation	Mohamod Sahil Ansari	0.0.0
	Development Server		0.1.0
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	Test.bentraytech.com		0.3.0
	Production Server		0.4.0
	Shared Server		0.5.0
	VPC - TCA, Chat, Foton, Kshamadevi, GFST		0.6.0
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	APPENDIX		0.8.0

DevOps Documentations

This is a document on the information of the server along with the information of the server. Follow along this document to get a better understanding of the servers. This document describes the servers used in the organization.

1. Development Server

This server is used for the development phase and for the testing phase as well. All the changes are made in the development server and are tested accordingly.
There are two development servers used for developing and testing.

- Bentray.work (Hosted in AWS)
- Test.bentraytech.com (Hosted in Digital Ocean)

1.1 Bentray.work

This server is hosted in AWS and can be accessed through Webmin which is similar to Cpanel. In order to login to the server, you need to have a key from the supervisor. This key will be stored in a google drive of the company. This link will be linked below.

- **Webmin:**

  URL**:** *https://bentray.work:10000/*

  Username**:** root

  Password**:** La7EbsawG3

- **Terminal/Termius:**

  You need the key to login through the terminal. Get the key from google drive and login using terminal command or use the GUI of termius to login into the server.

  Use the following Command in order to login on the server.

  $ *chmod 400 <path_to_key>*

  $ *ssh -i <path_to_key> user@ip*

  To access the server using termius use the following credentials

  Username: centos

  Password: *<key_ending_with_sujit_ppk>* - Get it from Google Drive

  IP: get it by using ping command

Aside from accessing the server, this AWS server is used to route the domain to different servers using Route53.

In order to login into AWS, you need an IAM user login credential. After you have access to AWS, follow the steps in order to route the domain to a different server.

- Search for the service Route53
- Go to hosted zone which is in the left side of your screen
- You will see different hosted zones but we need to work on bentray.work
- Click on the bentray.work hosted zone and get the list of domains of our dev server.
- Select the domain whose route you want to redirect and put the IP of the destination server.

- Use ping from local to check the redirection of the domain to the desired server.

NOTE:

Use the Terminal to access the server and pull the changes from the git rather than using Webmin and all the projects are placed in ***/home*** directory. This server consists of a production server as well so be careful of what you are doing in AWS.

1.2 Test.bentraytech.com

This server consists of the development server needed for the developer to test the code. In this server, projects are containerized and run through reverse proxy along with SSL. So in case you need to make a new container for a project, you need to run it through a reverse proxy with SSL. (Reference at the end of this document)

Reverse proxy Link: *https://hub.docker.com/r/jwilder/nginx-proxy*

Use this link to have a better understanding of the reverse proxy.

This server can be accessible through terminal or termius using the credentials below.

***IP*:** 165.22.209.140

***Username*:** root

***Password*:** 5.zMfqn@Msy9ysA

All the projects are placed in the **/*home*** directory and it's common practice to use home directories for multiple projects rather than in the root directory.

2. Production Server

This server is used to roll out the projects to the client and host them as per client requirements. Mostly the websites are hosted in a shared server using WHM and Cpane whereas others are hosted on the VPC(Virtual Private Cloud).

2.1 Shared Server (WHM/CPANEL)

This server hosts multiple websites of a client and restores the website as per client requirement. Mostly you will be working on the UI using WHM login and configure as per the requirement.
You can access the server by two ways either using WHM login or login to the server. Recommended to use WHM login unless you need to login to the server.

- **WHM Login Credentials**

  URL: *http://bentraytech.com/whm*

  Username: root

  Password: agRKg[^0ju3H

- **Server Login Credentials**

  IP: 209.159.155.2

  Username: root

  Password: agRKg[^0ju3H

  Port: 1157

2.2 VPC

Most of the clients have VPC and need to be managed and provide the support to the client as per need. You are responsible for troubleshooting the server in case of any issue. Some VPC are hosted in AWS and some in Digital Ocean.

2.2.1 AWS VPC

Some VPC are hosted in the AWS and need to access the server in case of any issue to troubleshoot the server. So as mentioned earlier, you need to have IAM login credentials to access these servers.

2.2.1.1 TCA Portal (Proadvance)

This server is an AWS VPC and can be accessed using the following credentials. You can even access through AWS Console to see the servers.
To access the server, you can use the webmin or directly login to AWS Console using IAM Credentials.

- **Webmin**

  URL: *https://server.tcaportal.net:10000/*

  Username: root

  Password: O98hbQREX52UDnD@

- **Terminal/Termius**

  IP: 54.69.176.174

  Username: centos

  Password: *<Key_starting_with_Bents> # Look in Google Drive*

2.2.1.2 Chat Server

This is another server hosted in AWS. You can view this server through AWS Console but need to have a login key to access the server.

- **Terminal/Termius**

  IP: 44.236.37.115

  Username: ec2-user

  Password: *<Key_starting_with_chat> #Look in Google Drive*

2.2.2 Digital Ocean

Beside from AWS, we have hosting on Digital Ocean. You don't need any IAM user to login to the server. You just need to have IP and root login credentials.

2.2.2.1 Foton Nepal VPC

This server is a Foton Nepal VPC where the website is hosted. You can use webmin or login to the server to troubleshoot the issue.

- **Webmin**

  URL: *http://fotonnepal.com:10000/*

  Username: root

  Password: 5.zMfqn@Msy9ysA

- **Terminal/Termius**

  IP: 139.59.95.116

  Username: root

  Password: 5.zMfqn@Msy9ysA

2.2.2.2 KshamadeviGroup VPC

This server is used to host the website of KshamadeviGroup. You can access the server through Webmin or terminal to troubleshoot the issue.

- **Webmin**

  URL: *http://kshamadevigroup.com:10000/*

  Username: root

  Password: uTh37(iQp20!Uzs9

- **Terminal/Termius**

  IP: 159.89.166.116

  Username: root

  Password: uTh37(iQp20!Uzs9

2.2.2.3 GFST Mail

This server is used to host mail from GFST. It is running in a container environment. You can only access this server using terminal or termius.

- **Terminal/Termius**

  IP: 165.232.181.61

  Username: root

  Password: 5.zMfqn@Msy9ysA

2.2.2.4 Demo.bentray.work

This server is used to host communication tools i.e mattermost. Along with the tool, there's a password manager BitWarden. On this server, we have hosted websites as well i.e MeroReport, MySirani.

- **Terminal/Termius**

  IP: 139.59.80.80

  Username: root

  Password: 5.zMfqn@Msy9ysA

2.2.2.5 Cloud2.tukihost.com

This server is used to host the attendance system of the company. You can see the details of this server using Webmin as well

- **Webmin**

  URL: *https://cloud2.tukihost.com:10000/*

  Username: root

  Password: 6ezRd~zFn^mJL

- **Terminal/Termius**

  IP: 68.183.237.66

  Username: root

  Password: 5.zMfqn@Msy9ysA

2.2.2.6 App.Flexyear.com

This server hosts the new version of attendance system and is used to run frontend only.

- **Terminal/Termius**

  IP: *165.22.208.109*

  Username: root

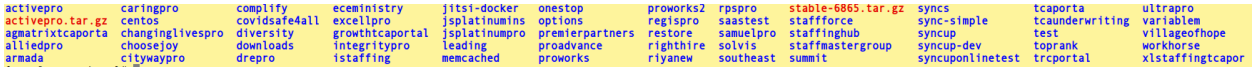
  Password: 5.zMfqn@Msy9ysA

APPENDIX

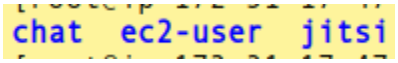
- **Google Drive Link:** *https://drive.google.com/drive/folders/11dulpUQyqNpV1aJidVWP6IjMcqqArPRL*

- **List of Projects in the Servers:**

  - **TCA Portal Server**

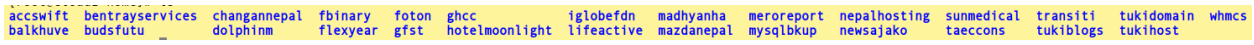


  - **Chat Server**



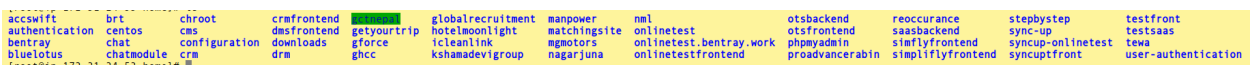
  - **demo.bentray.work**

  - **Cloud2.tukihost.com**



  - **Test.bentraytech.com**

  - **Bentray.Work**



REVERSE PROXY WITH SSL SAMPLE:

The reverse proxy that we use is jwilder reverse proxy. Along with reverse proxy, we have set up nginx letsencrypt companion that will generate SSL for the domains. Before running the compose file, first you need to create a network "rev-proxy" as shown below.

```yaml
version: "3"
services:
    rev-proxy:
        image: jwilder/nginx-proxy
        container_name: rev-proxy
        ports:
            - "80:80"
            - "443:443"
        volumes:
            - "/var/run/docker.sock:/tmp/docker.sock:ro"
            - "./certs-volume:/etc/nginx/certs:rw"
            - "./nginx-host:/etc/nginx/vhost.d"
            - "./nginx-html:/usr/share/nginx/html"
            - "./nginx-conf:/etc/nginx/conf.d"

    nginx-letsencrypt-companion:
        restart: always
        container_name: nginx-letsencrypt-companion
        image: jrcs/letsencrypt-nginx-proxy-companion
        volumes:
        - "./certs-volume:/etc/nginx/certs"
        - "/var/run/docker.sock:/var/run/docker.sock:ro"
        volumes_from:
        - "rev-proxy"

volumes:
    certs-volume:
    nginx-host:
    nginx-html:
    nginx-conf:

networks:
    default:
        external:
                name: rev-proxy
```

To use this reverse proxy, you need to define network mode in your project compose file along with the environment as shown below.

```
network_mode: "rev-proxy"
environment:
  - VIRTUAL_HOST=backend.ansutest.bentraytech.com
  - LETSENCRYPT_HOST=backend.ansutest.bentraytech.com
```

GITLAB CI/CD

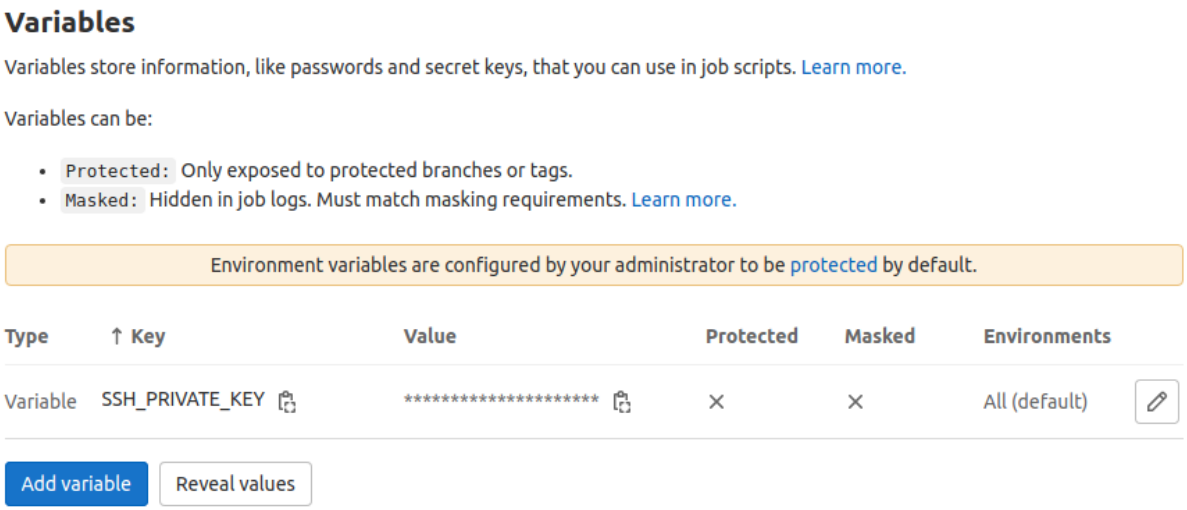
CI/CD is implemented using Gitlab. For that, you need to have access to gitlab projects. Follow along to set up CI/CD.

1. Access the project where you want to set up the CI/CD.
2. Go to the CI/CD section shown on the left hand side of the project.
3. Select Editor to configure the CI/CD.
4. Select the respective branch for Development and Production Server.

```
image: php:latest

before_script:
    - apt-get update -qq
    - apt-get install -qq git
    - "which ssh-agent || ( apt-get install -qq openssh-client )"
    - eval $(ssh-agent -s)
    - ssh-add <(echo "$SSH_PRIVATE_KEY")
    - mkdir -p ~/.ssh
    - touch ~/.ssh/known_hosts
    - ssh-keyscan -H 165.22.209.140 >> ~/.ssh/known_hosts
    - '[[ -f /.dockerenv ]] && echo -e "Host *\n\tStrictHostKeyChecking no\n\n" > ~/.ssh/config'
    #- chmod 600
deploy_stage:
    stage: deploy
    environment: Staging
    only:
        - dev
    script:
        - ls
        - scp -o StrictHostKeyChecking=no -r * root@165.22.209.140:/home/anshuinvest/anshuinvest/ansu
```

5. You need to define ***SSH_PRIVATE_KEY*** in CI/CD variables.
6. Go to Setting-> CI/CD just below the CI/CD to configure the variables.



7. SSH_PRIVATE_KEY will be the remote server ssh private key. (id_rsa)
8. Login into the remote server and copy the ssh public key to authorized_keys. Use the command below: ***cat id_rsa.pub >> ~/.ssh/authorized_keys***
9. Commit the CI/CD file.
10. You have set up the CI/CD using Gitlab.

TOOLS USED FOR TROUBLESHOOT

- https://www.pingdom.com/
- https://mxtoolbox.com/
- https://hide.me/en/proxy
- https://intodns.com
- Terminal