Markov Rankings Server setup

1. Install CentOS Linux distribution on machine (Minimal ISO)
   * <https://www.centos.org/download/>
2. Initial server setup
   * Connect to Digital Ocean machine with SSH:
     + <https://www.digitalocean.com/docs/droplets/how-to/connect-with-ssh/>
   * Create users, etc:
     + <https://www.digitalocean.com/community/tutorials/initial-server-setup-with-centos-7>
3. (Optional) If running locally, set up network in Oracle VM
   * Configure network between host and guest machines:
     + <https://www.tecmint.com/network-between-guest-vm-and-host-virtualbox/>
   * Setup static IP address for guest machine:
     + <https://www.tecmint.com/set-add-static-ip-address-in-linux/>
   * Leave NM\_CONTROLLED=yes
4. Install Postgres
   * <https://www.digitalocean.com/community/tutorials/how-to-install-and-use-postgresql-on-centos-7>
5. Install Node
   * <https://www.digitalocean.com/community/tutorials/how-to-install-node-js-on-a-centos-7-server>
     + Use nvm instructions to get v10.14.1
6. Install npm
   * sudo yum install npm
   * <https://www.digitalocean.com/community/tutorials/how-to-install-node-js-on-a-centos-7-server>
7. Install Git
   * sudo yum install git
   * <https://www.digitalocean.com/community/tutorials/how-to-install-git-on-centos-7>
8. Clone Git repo from GitHub
   * git clone https://github.com/jbadlato/Markov-Rankings
   * <https://help.github.com/articles/cloning-a-repository/>
9. Create Postgres database
   * <https://www.digitalocean.com/community/tutorials/how-to-install-and-use-postgresql-on-centos-7>
   * Create database and password to use in .env file
   * Create role & database markov – not super user
   * Grant privileges to all tables and sequences
     + https://stackoverflow.com/questions/15520361/permission-denied-for-relation
10. Create .env file to connect server to database
    * DATABASE\_URL=postgres://username:password@localhost:5432/YourDatabase
      + <https://stackoverflow.com/questions/9205496/how-to-make-connection-to-postgres-via-node-js>
    * Set ssl=off in postgres config file
    * Set authentication to md5 instead of ident
11. Install project dependencies
    * npm install
12. Run scripts to setup database
    * psql –d markov < Database/DDL/Tables\_DDL.sql
    * psql < Database/DML/league\_DML.sql
    * psql < Database/DML/ranking\_source\_DML.sql
    * psql < Database/DML/season\_DML.sql
    * psql < Database/DML/conference\_DML.sql
13. Run scripts to ingest data from masseyratings
    * node –r dotenv/config Backend/Ingestion/ingest.js
    * psql < Database/DML/UPDATE\_TEAM\_CONFERENCES.sql
    * psql < Database/DML/UPDATE\_TEAM\_LOGO\_FILES.sql
    * psql < Database/Scripts/UPDATE\_SCHEDULED\_IND.sql
    * psql < Database/Scripts/UPDATE\_WIN\_LOSS\_RECORDS.sql
14. Run rankings calculation script
    * node –r dotenv/config Backend/Processing/calculateRankings.js
15. Create production build of react app
    * cd client
    * npm install
    * npm run build
16. Run server
    * npm run server
17. Install pm2
    * Sudo npm install –g pm2
18. Start application using pm2
    * Pm2 start server.js
19. Set up automatic deployments
    * <https://www.digitalocean.com/community/questions/upload-existing-node-js-with-express-js-app-to-centos-7-server>

<https://hackernoon.com/start-to-finish-deploying-a-react-app-on-digitalocean-bcfae9e6d01b>

<https://www.digitalocean.com/community/tutorials/how-to-install-an-ssl-certificate-from-a-commercial-certificate-authority>

pm2

ssl:

<https://www.postgresql.org/docs/9.5/ssl-tcp.html>

<https://stackoverflow.com/questions/22301722/ssl-for-postgresql-connection-nodejs/24962040>

continuous integration with react:

<https://medium.freecodecamp.org/how-to-set-up-continuous-integration-and-deployment-for-your-react-app-d09ae4525250>

security:

<https://www.digitalocean.com/community/tutorials/additional-recommended-steps-for-new-centos-7-servers>

<https://www.digitalocean.com/community/tutorials/how-to-set-up-a-node-js-application-for-production-on-ubuntu-16-04>

scheduling jobs with cron:

<https://www.digitalocean.com/community/tutorials/how-to-use-cron-to-automate-tasks-on-a-vps>

mail:

<https://www.digitalocean.com/community/questions/my-emails-goes-to-gmail-spam-from-centos-server>

<https://www.digitalocean.com/community/tutorials/how-to-install-and-configure-dkim-with-postfix-on-debian-wheezy>

<https://support.rackspace.com/how-to/centos-hostname-change/>