Lab 4. Configuring the database using formulas and spm

Before starting the lab.

Log into the database server as root. Install the minion via the bootstrap command as we did in Lab 1. Omit the -M option as that will install the salt master, which we don't need here. As before, modify the minion file to tell Saltstack where the salt master is located, and, on the salt master, accept the new minion's key.

Setting up spm.

To set up spm, perform the following actions.

1. Edit your salt master configuration file. Underneath the *file_roots:* directive, add the following line:

- /srv/salt/spm

2. Restart the salt-master

3. Create the following directory under /etc/salt. */etc/salt/spm.repos.d.*

4. Change to that directory. Create and edit the file spm.repos. Add the following lines:

saltstack_formulas:

  url: https://github.com/saltstack-formulas

5. Create a repository with spm by running *spm create_repo /srv/salt/spm*

6. Update the repo using the command *spm update_repo*.

7. create a directory called */srv/salt/formulas.*

8. Change to that directory.

9. using a *git clone* command, clone the following repo: https://github.com/saltstack-formulas/postgres-formula

10. You will manually need to create a FORMULA file in YAML format. Most of the saltstack formulas do not have a FORMULA file created, so you will have to do this manually. The nginx formula, however does have a FORMULA file so you can use that one as the template.

Here is the nginx formula file.

```
name: nginx
            os: RedHat, Debian, Ubuntu, Suse, Gentoo
            os_family: RedHat, Debian, Suse, Gentoo
            version: 201507
            release: 1
            minimum_version: 2015.8
            summary: Formula for installing Nginx
            description: Formula for installing Nginx web server
```

Replace all of the relevant information from Nginx to Postgres.

11. Run *sudo spm build /srv/salt/formulas/postgres-formula.* This will place an spm package into the directory /srv/spm_build.

12. Install the spm package with *sudo spm install postgres.* This places the built states into the directory /srv/spm/salt

13. Now you're ready to use the formula. In your *top.sls* file, Add a 'db' state that calls the postgres formula.

14. Use the command *sudo salt 'dbserver*' state.apply db* to apply the state to the database server.