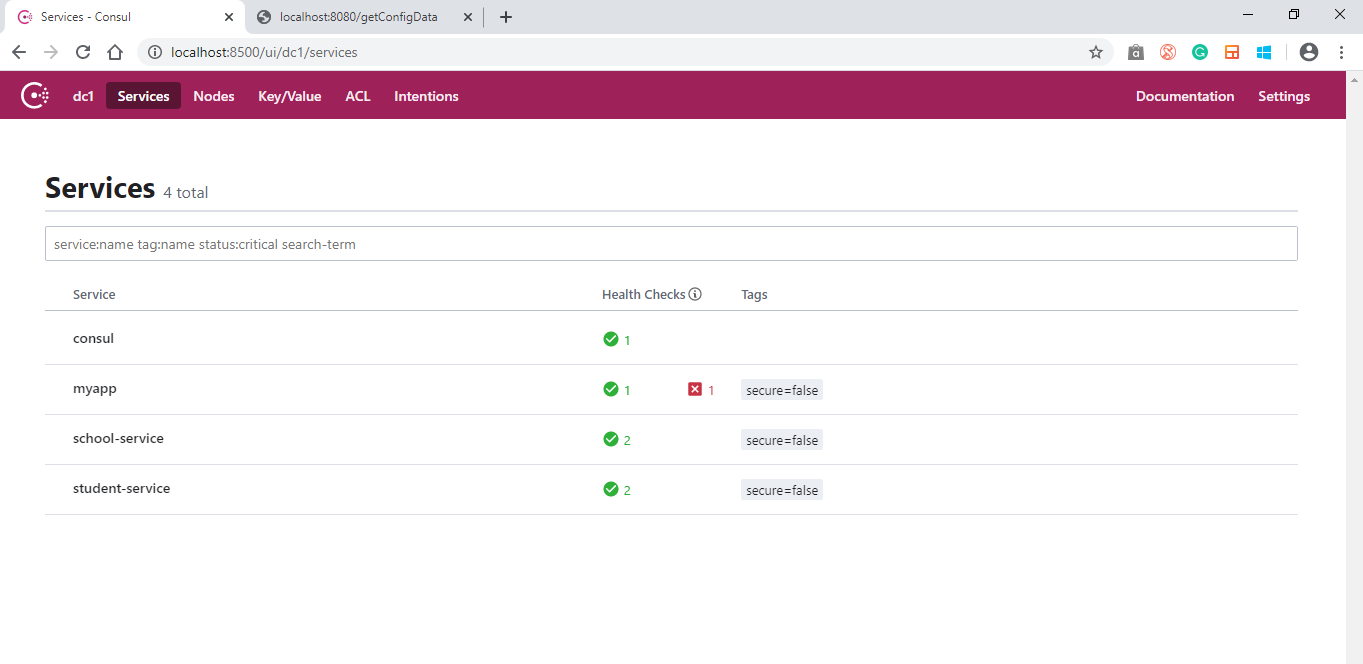
Spring Consul Application:

To start the consul we need to below command in cmd prompt

**consul agent -server -bootstrap-expect=1 -data-dir=consul-data -ui -bind=192.168.43.187**

We will give our IP address as value to bind i.e. bind=192.168.43.187

After running that command consul ui will start at localhost:8500



We have to add following dependencies in spring boot application for consul

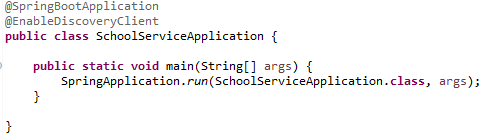
<dependency>

<groupId>org.springframework.cloud</groupId>

<artifactId>spring-cloud-starter-consul-discovery</artifactId>

</dependency>

We need to add **@EnableDiscoveryClient** annotation to spring boot application to register that application in consul



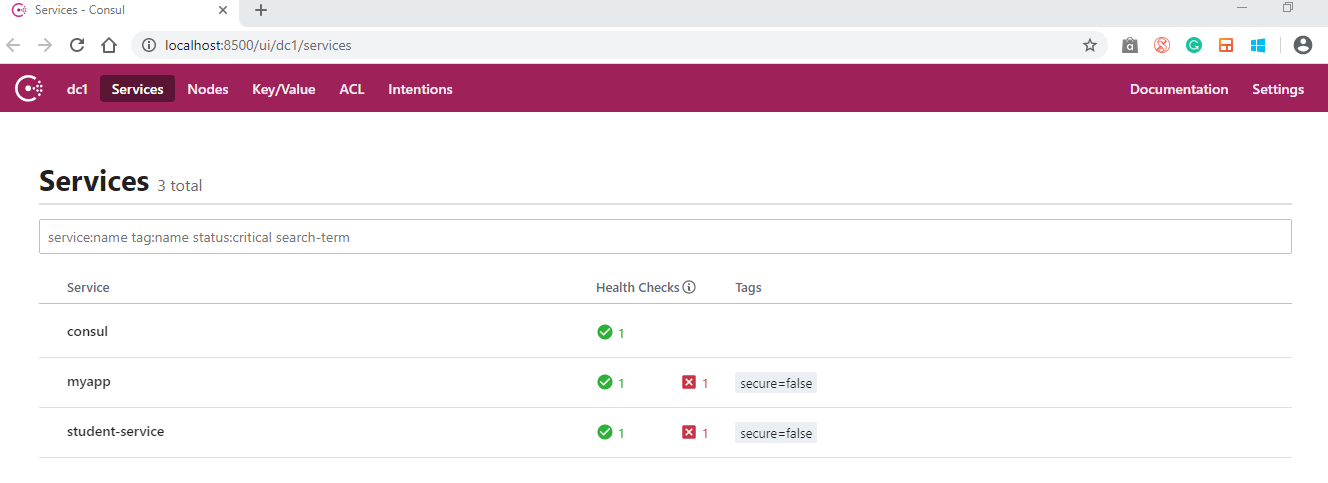
We have to add below properties in application.properties

server.port=9098

spring.application.name: student-service

Here server.port is the port where our application runs and with spring application name is the name of application in consul(i.e. with that name it will register in consul).

Run the application using above cmd then consul application starts in localhost:8500



After running our applications (e.g. myapp, student-service) as Spring Boot App, those will register in consul.

Key/Value example:

We have to add below configuration dependencies to enable Key/Value in consul.

<dependency>

<groupId>org.springframework.cloud</groupId>

<artifactId>spring-cloud-starter-consul-config</artifactId>

</dependency>

<dependency>

<groupId>org.springframework.cloud</groupId>

<artifactId>spring-cloud-starter-consul-discovery</artifactId>

</dependency>

<dependency>

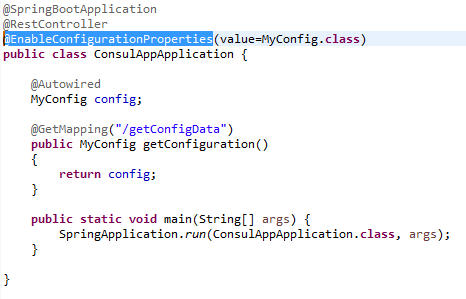
<groupId>org.springframework.boot</groupId>

<artifactId>spring-boot-configuration-processor</artifactId>

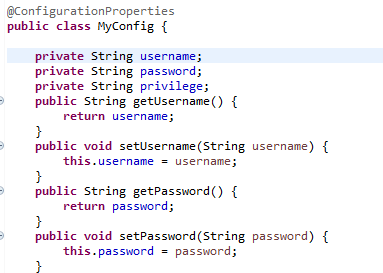
<optional>true</optional>

</dependency>

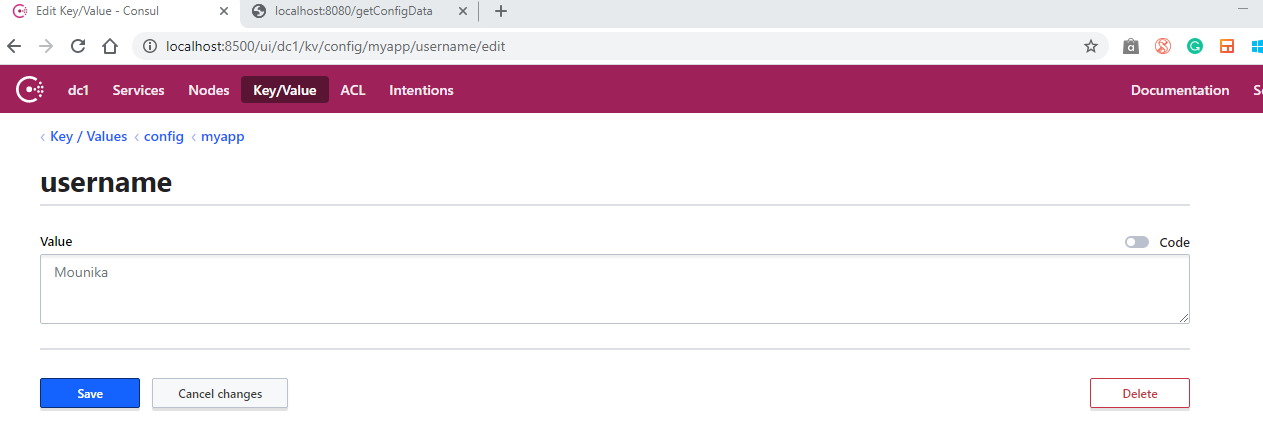
Add **@EnableConfigurationProperties** annotation to spring boot application



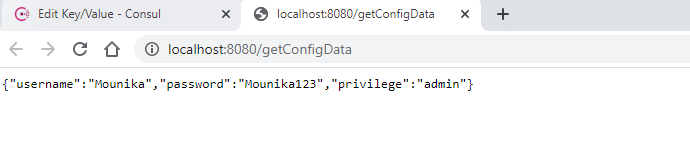
Add one bean file with same parameters as in the consul



Create corresponding parameters in consul



Run the application



Example to enable ACL:

We need to create .hcl file with following parameters

acl {

enabled = true

default\_policy = "deny"

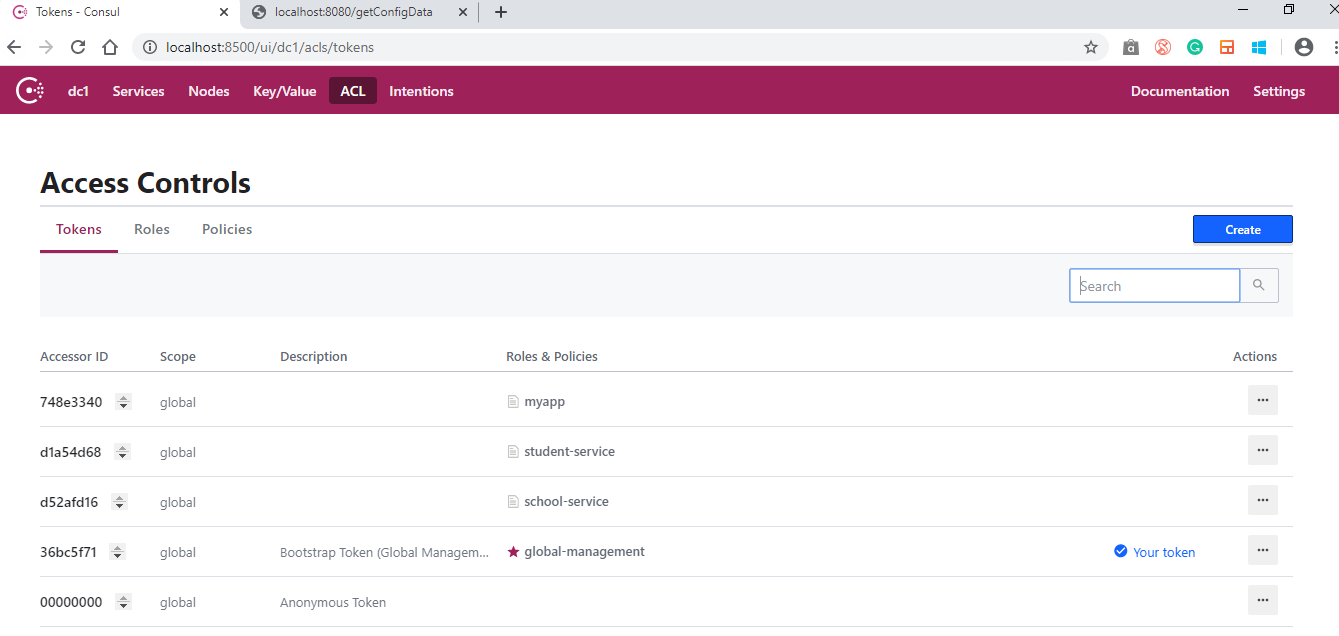
down\_policy = "extend-cache"

}

Start the consul by adding above .hcl file path(\consul\_1.7.2\_windows\_amd64\config) in the command.

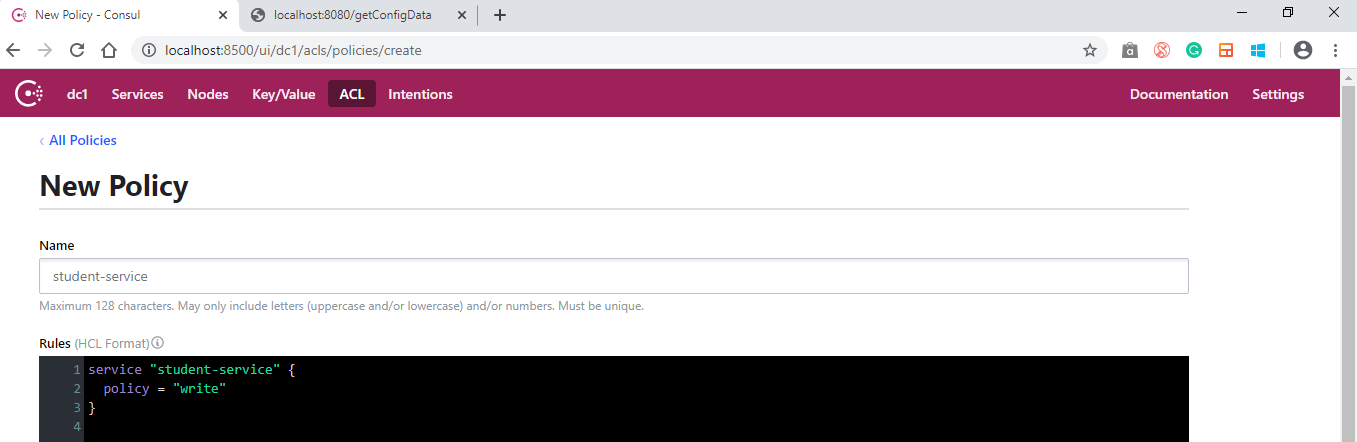
consul agent -server -bootstrap-expect=1 -data-dir=consul-data -config-dir= \consul\_1.7.2\_windows\_amd64\config -ui -bind=192.168.43.187

Consul was started with ACL

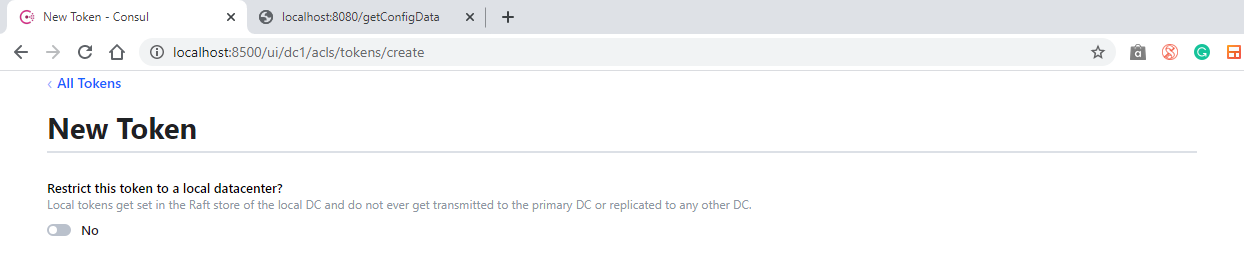


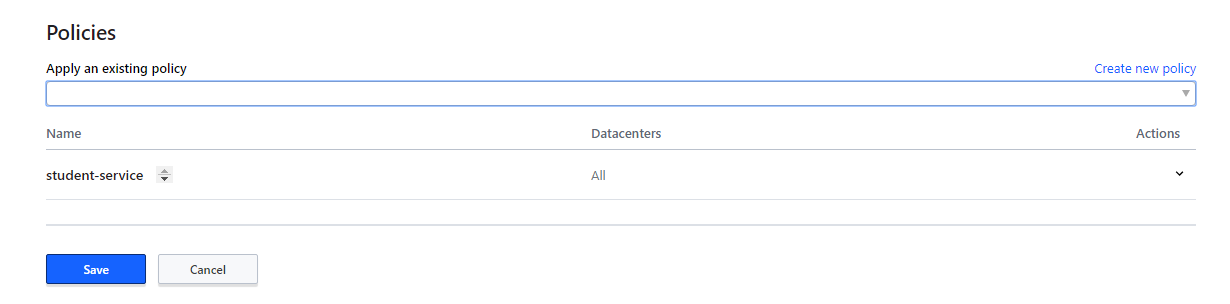
After enabling ACL we need to create policies and tokens for applications to run, if we are not creating we will get forbidden access while running applications

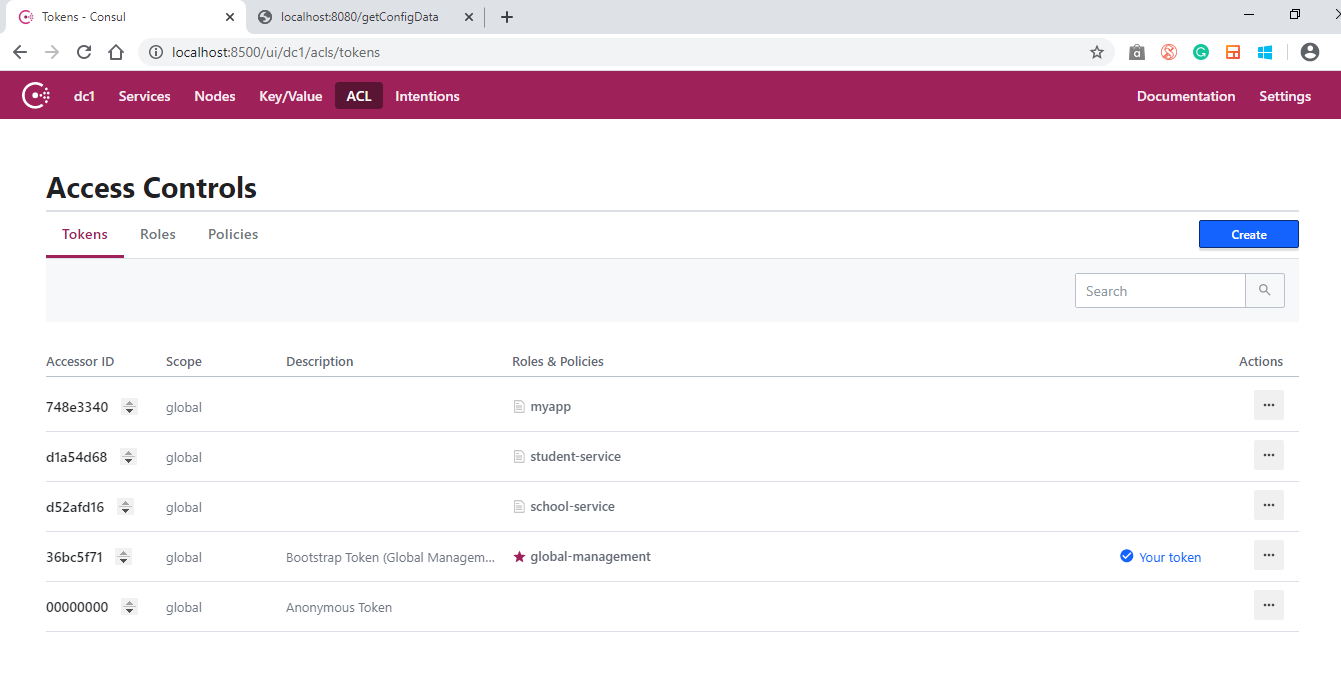
Create policy with rules



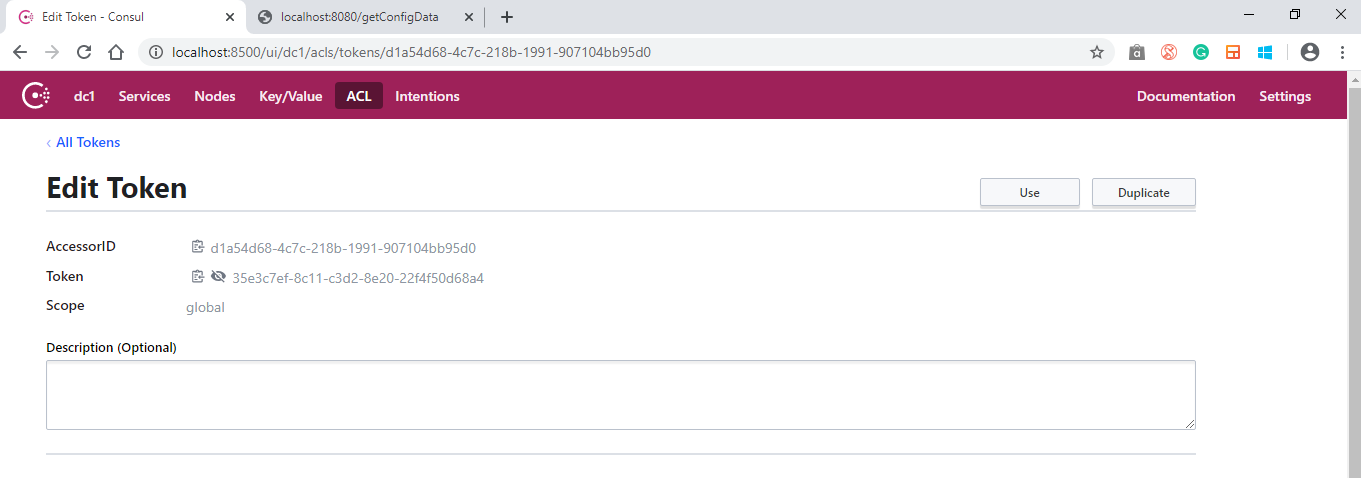
Create token for corresponding policy







We need to add token for the corresponding service in application.properties



server.port=9098

spring.application.name: student-service

management.security.enabled=false

spring.cloud.consul.discovery.acl-token=35e3c7ef-8c11-c3d2-8e20-22f4f50d68a4

If we are calling one application in another application we need to add following sidecar-proxy rules in policies (if we are enabling acl).

