Smarten
Augmented Analytics

Configuring Load Balancer – On Premises

Document Version: 1.0
Product Version: 5.2 and above

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Document Information	
Document ID	Smarten-Configuring-Load-Balancer-On-Premises
Document Version	1.0
Product Version	5.2 and above
Date	11-May-2022
Recipient	NA
Author	EMTPL

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Disclaimer

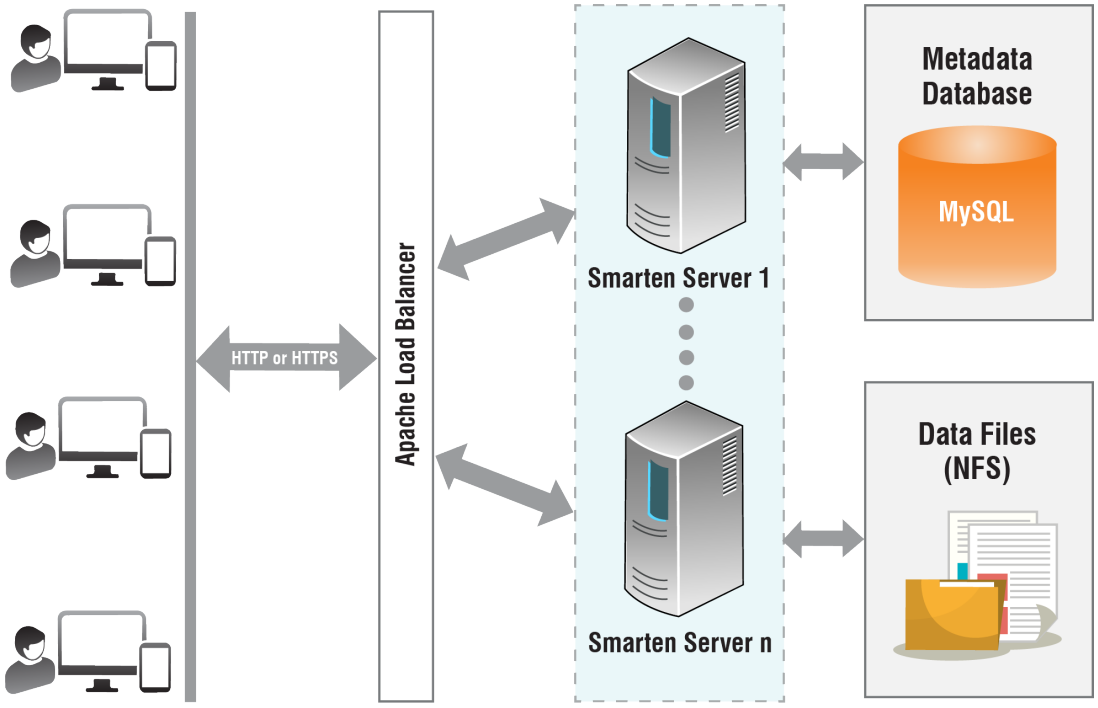
This document is intended to support administrators, technology managers or developers using and implementing Smarten. The business needs of each organization will vary and this document is expected to provide guidelines and not rules for making any decisions related to Smarten. The overall performance of Smarten depends on many factors, including but not limited to hardware configuration and network throughput.

Contents

Prerequisite

Smarten is deployed on two nodes as per instructions in Smarten installation manual.

1 Architecture



SMARTEN - CONFIGURING LOAD BALANCING ON ON-PREMISES SERVER WITH APACHE - ARCHITECTURE

2 Configuring Shared Data Folder

Procedure

1. Install nfs server on linux machine using below mention command
    - sudo apt install nfs-kernel-server
2. Create an NFS Export Driectory, Run the command below by specifying the NFS mount directory name.
    - sudo mkdir –p /mnt/data
3. Remove permission on directory using below mention command and give full rights on folder
    - sudo chown –R nobody:nogroup /mnt/data
    - sudo chmod 777 /mnt/data
4. Permissions for accessing the NFS server are defined in the /etc/exports file. So open the file using your favourite test editor.
    - sudo vim /etc/exports
5. Allowed an entire subnet to have access to the NFS share
    - /mnt/data 10.0.0.0/24(rw,sync,no_subtree_check)
6. After granting access to the preferred client system, export the NFS share directory and restart the NFS kernel server for the changes to come into effect.
    - sudo exportfs –a
    - sudo systemctl restart nfs-kernel-server

7. Install the NFS client on all smarten nodes
    - sudo apt install nfs-common

8. Create an NFS mount point on Smarten nodes
    - sudo mkdir –p/mnt/data

9. Mount NFS server share dir on smarten node
    - sudo mount 10.0.0.1:/mnt/data /mnt/data

10. Set share data folder path in system.properties
    - APPLICATION_PATH=/mnt/data

3 Installing And Configuring Metadata on MySQL Database

Install MySQL database.

3.1 Database Installation

1 Installing MySQL database using mention below command

- sudo apt-get update
- sudo apt upgrade
- sudo apt install mysql-server
- sudo apt install mysql-client
- sudo mysql_secure_installation
- sudo systemctl enable mysql
- sudo systemctl start mysql

3.2 Database Creation

Procedure

1. Locate mysql.sql script file from following path.
   WILDFLY_HOME/standalone/deployments/smarten.war/upgrade/mysql.sql

2. Execute script file on above created “smarten” database in MySQL.

3.3 Configuring Database connection parameters in Smarten

Procedure

1. Open file dbConf.properties from path shown below and comment HSQL DB parameter.
   WILDFLY_HOME/standalone/deploymetns/smarten.war/conf/dbConf.properties

   #HSQL Start
   #hibernate.dialect=org.hibernate.dialect.HSQLDialect
   #hibernate.hbm2ddl.auto=update
   #hibernate.connection.driver_class=org.hsqldb.jdbcDriver
   #hibernate.connection.username=sa
   #hibernate.connection.password=
   #hibernate.connection.url=jdbc:hsqldb:<data_folder_path>/DB/elegantjbi;shutdown=true;hsqld

#hsqldb.write_delay=false;hsqldb.lob_compressed=true;hsqldb.log_size=50;hsqldb.defrag_limit=5;
#hibernate.connection.url=jdbc:hsqldb:hsql://localhost/elegantjbi
#hibernate.connection.url=jdbc:hsqldb:hsql://localhost/<data_tenant_path>
#hibernate.show_sql=false

2. Edit dbConf.properties file by following command and uncomment MySQL DB parameter and add MySQL DB credentials.
WILDFLY_HOME/standalone/deployments/smarten.war/conf/dbConf.properties

hibernate.dialect=org.hibernate.dialect.MySQLDialect
hibernate.hbm2ddl.auto=update
hibernate.connection.driver_class=com.mysql.jdbc.Driver
hibernate.connection.username= **Database Username**
hibernate.connection.password= **Database Password**
hibernate.connection.url=jdbc:mysql://**Database Ip (endpoint)** /**Database Name**?useUnicode=true&characterEncoding=UTF-8
tenant.db.url.template=jdbc:mysql://**Database Ip (endpoint)** /<data_tenant_path>?useUnicode=true&characterEncoding=UTF-8
tenant.mysql.command.path=mysql,--host=**Database Ip(endpoint)**,--port=**3306**,--user=**Database Username**,--password=**Database Password**

3.4 Configuring quartz Scheduler

Procedure

1. Open file quartz.properties from path shown below and comment HSQL DB parameter.
WILDFLY_HOME/standalone/deployments/smarten.war/conf/ quartz.properties

#org.quartz.jobStore.class = org.quartz.impl.jdbcjobstore.JobStoreTX
#org.quartz.jobStore.driverDelegateClass = org.quartz.impl.jdbcjobstore.HSQLDBDelegate
#org.quartz.jobStore.tablePrefix = QRTZ_
#org.quartz.jobStore.isClustered = true
#org.quartz.jobStore.clusterCheckinInterval = 20000
#org.quartz.jobStore.useProperties = false
#org.quartz.jobStore.misfireThreshold = 60000
#org.quartz.jobStore.selectWithLockSQL = SELECT * FROM {0}LOCKS UPDLOCK WHERE LOCK_NAME

2. Open file quartz.properties from path shown below and uncomment MySQL DB parameter.
WILDFLY_HOME/standalone/deployments/smarten.war/conf/quartz.properties

org.quartz.jobStore.class = org.quartz.impl.jdbcjobstore.JobStoreTX
org.quartz.jobStore.driverDelegateClass = org.quartz.impl.jdbcjobstore.StdJDBCDelegate
org.quartz.jobStore.tablePrefix = QRTZ_
org.quartz.jobStore.isClustered = true
org.quartz.jobStore.clusterCheckinInterval = 20000
org.quartz.jobStore.useProperties = false
org.quartz.jobStore.misfireThreshold = 60000

org.quartz.jobStore.selectWithLockSQL = SELECT * FROM {0}LOCKS WHERE SCHED_NAME = {1} AND LOCK_NAME = ? FOR UPDATE

4 Installing Apache2 and mod-jk

1 Installing apache 2 using mention below command

- sudo apt-get install apache2

2 Installing apache2 mod-jk module

- sudo apt-get install libapache2-mod-jk

5 Configuring Apache2 for Load-Balancing

1 Go to libapache2-mod-jk directory

- cd /etc/libapache2-mod-jk

2 Backup existing workers.properties file

- cp –r workers.properties workers.bkup

3 Remove existing workers.protperites file, Create new workers.propeties file and copy paste below mention content in file.

worker.list=loadbalancer,status

- setup node1
  worker.node1.port=8009 **(Smarten AJP Port)**
  worker.node1.host=192.168.1.53 **(Smarten node1 IP)**
  worker.node1.type=ajp13
  worker.node1.ping_mode=A
  worker.node1.lbfactor=1
  worker.node1.cachesize=10

- setup node2
  worker.node2.port=8009 **(Smarten AJP Port)**
  worker.node2.host=192.168.1.54 **(Smarten node2 IP)**
  worker.node2.type=ajp13
  worker.node1.ping_mode=A
  worker.node2.lbfactor=1
  worker.node2.cachesize=10

- setup the load-balancer
  worker.loadbalancer.type=lb
  worker.loadbalancer.balance_workers=node1,node2
  worker.loadbalancer.sticky_session=True

- worker.loadbalancer.sticky_session_force=True
  worker.loadbalancer.method=S

- Status worker for managing load balancer
  worker.status.type=status

4 Configure the URL Apache should pass through the Widfly

- vim /etc/apache2/sites-enabled/000-default.conf

5 Add the following line in your configuration

```
<VirtualHost *:80>
    JkMount /* loadbalancer
    JkMount /status/* status
</VirtualHost>
```

6 Save and restart the apache2 services

- sudo systemctl restart apache2

6 Configuring AJP Port and Sticky Session on Smarten Node

1 Open standalone.xml file from path shown below

- WILDFLY_HOME/standalone/configuration/standalone.xml

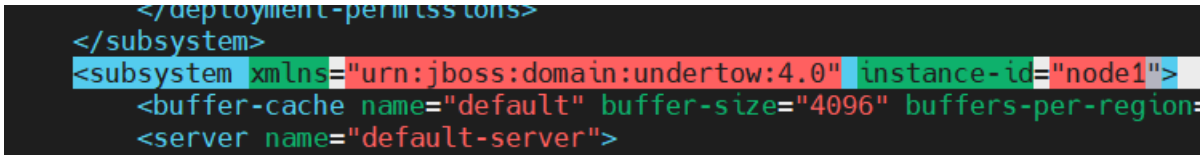
2 Add AJP-listener in end of the http-listener line.

- <ajp-listener name="AJP/1.3" socket-binding="ajp"/>

SMARTEN CONFIGURING LOAD BALANCING LOCALLY WITH APACHE - CONFIGURING AJP PORT AND STICKY SESSION ON SMARTEN NODE

3 Specify instance-id for undertow subsystem in standalone.xml, where node1 is the node name specified in the worker. Properties.

- <subsystem xmlns="urn:jboss:domain:undertow:4.0" instance-id="node1">



SMARTEN CONFIGURING LOAD BALANCING LOCALLY WITH APACHE - CONFIGURING AJP PORT AND STICKY SESSION ON SMARTEN NODE

4 Save and start wildfly services

- sudo systemctl start wildfly

7 Product and Support Information

Find more information about ElegantJ BI-Smarten and its features at www.smarten.com
Support: support@smarten.com
Sales: sales@smarten.com
Feedback & Suggestions: support@smarten.com
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