SAS® Viya™ 3.2 Administration: SAS® Configuration Server

SAS Configuration Server: Overview

SAS Configuration Server is based on HashiCorp's Consul 0.6.4. SAS Configuration Server uses Consul as a service configuration registry that serves as a central repository for configuration data, service discovery, and health status.

Note: A programming-only deployment does not use SAS Configuration Server.

See Also

- How To on page 1
- Concepts on page 2

SAS Configuration Server: Tasks

Operate

SAS Viya uses the operating system's default init system or systemd command to launch a script that can stop, start, restart, and check the status of SAS Configuration Server, which is based on Consul. This script, `sas-viya-consul-default`, resides in **`/etc/init.d`**.

Note: You must be signed in to the machine where configuration server resides with sudo privileges to run this script.

To operate SAS Configuration Server, run:

`sas-viya-consul-default status | stop | start | restart`

Note: For multi-machine deployments, run `sas-viya-consul-default` on every SAS Viya machine. Start or restart SAS Configuration Server *first*. Stop SAS Configuration Server *last*.

Note: There is a script with which you can manage and view the running state of all SAS Viya services. For more information, see "All Servers and Services" in SAS Viya Administration: General Servers and Services.

For your convenience, here are a few examples:

- checking status of SAS Configuration Server using a direct call:

  ```
  sudo /etc/init.d/sas-viya-consul-default status
  ```

- stopping SAS Configuration Server using the Red Hat Linux version 6 init system command:

  ```
  sudo service sas-viya-consul-default stop
  ```

- starting SAS Configuration Server using the Red Hat Linux version 7 systemd command:

  ```
  sudo systemctl start sas-viya-consul-default
  ```

- restarting SAS Configuration Server using a direct call:

  ```
  sudo /etc/init.d/sas-viya-consul-default restart
  ```

Locate Logs

SAS Configuration Server log files are located in **`/opt/sas/viya/config/var/log/consul/default`**.

See Also

- Concepts on page 2

SAS Configuration Server: Concepts

What Is SAS Configuration Server?

SAS Configuration Server is based on HashiCorp's Consul. Consul is a distributed, highly available registry that contains service configuration data and health information.

Configuration data resides in SAS Configuration Server as key-value pairs. This data is used by SAS Viya microservices at start-up to load their default values and to discover any service dependencies.

During run time, whenever a service's properties change, the service is notified, and it rereads its properties from SAS Configuration Server. (The exceptions are noted here.)

Periodically, each service registers health checks that are used by the SAS Monitoring Service to report on service status.

Configuration Service Topology

Every machine runs a SAS Configuration Server agent process that performs health checks on the SAS Viya services running and on the machine itself. Each configuration agent provides health information to one or more

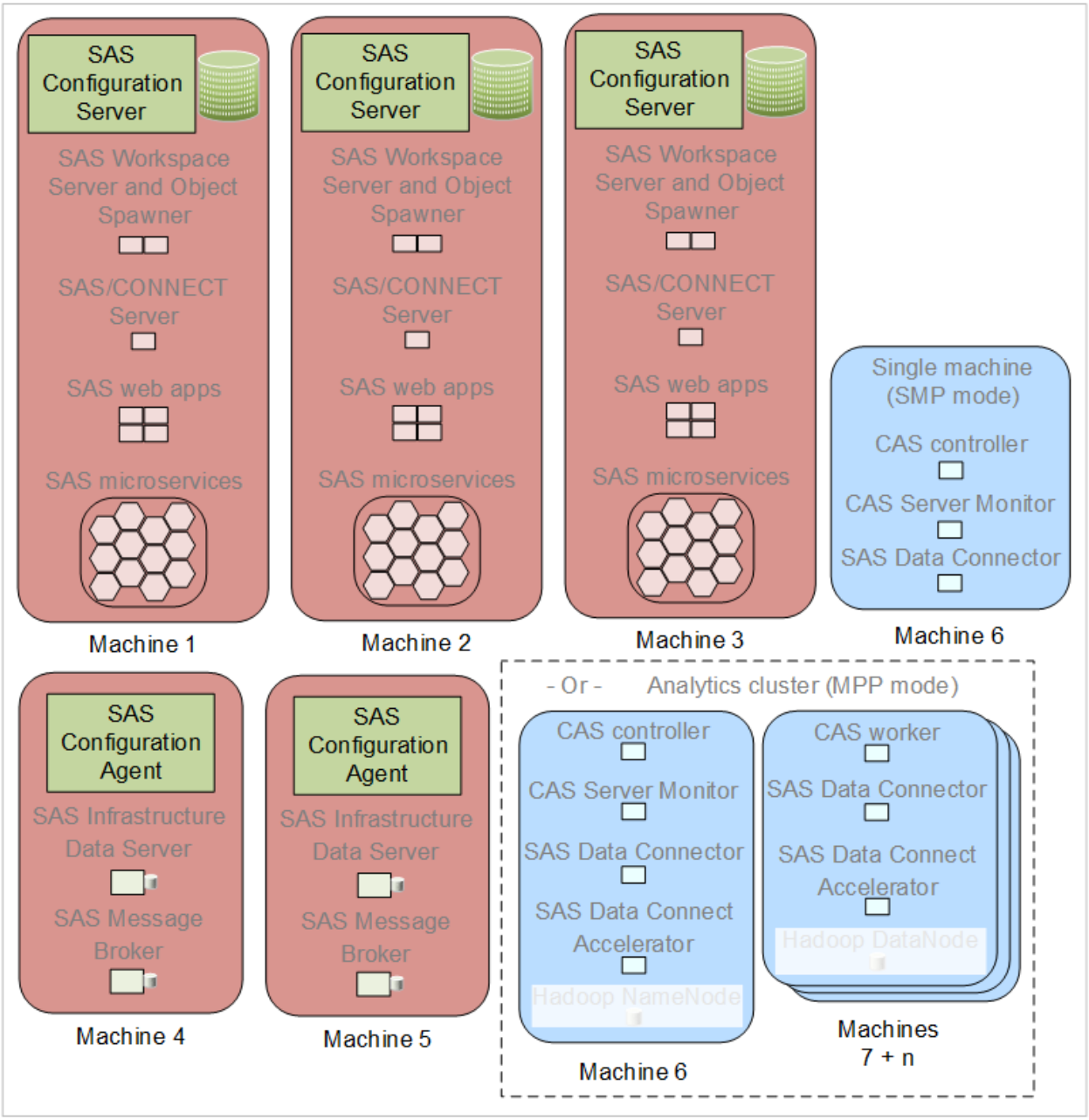
configuration servers. In highly available deployments, configuration servers elect a leader and store and replicate service information.

SAS Viya services send queries to configuration servers or configuration agents to discover other services. Configuration agents that receive queries automatically forward them to a configuration server.

The following figure shows the minimum recommended highly available SAS Viya configuration for SAS Configuration Server: three machines. A three-machine cluster can tolerate a single node failure. (For more information, see https://www.consul.io/docs/internals/consensus.html.)

In this three-machine deployment, the SAS Infrastructure Data Server and SAS Message Broker are deployed on machines separate from the other SAS Viya software (machines 4 and 5) to enhance performance. (Machine 5 provides high availability for machine 4.) If Cloud Analytic Services (CAS) is running in SMP mode, then one machine is used (machine 6). If CAS is running in MPP mode, then the CAS controller is deployed on machine 6, and machines 7+n contain CAS workers. Configuration agents do not run on Cloud Analytic Services (CAS) machines, unless CAS is co-located with the SAS microservices or the SAS web applications.

Minimum Recommended Highly Available SAS Viya Deployment



How Does the Configuration Service Work with SAS Configuration Server?

For information about how the SAS Configuration Service works with SAS Configuration Server, see "How SAS Viya Configuration Works" in SAS Viya Administration: Configuration Properties.

See Also

- How To on page 1