

# Ambari

1.2

How Ambari Agents Register



# Summary

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- **Terminology**

- Bootstrap –how to initially install an Agent on a host and “kick-off” registration
- Registration – the act of an Agent host “registering” with the Server

- **Are there multiple ways to bootstrap an Agent?**

Yes. Option #1: SSH and Option #2: Manual (no SSH)

- **What are the differences between Option #1 and Option #2?**

With Option #1, you can have the Ambari Server bootstrap the agents during “Confirm Hosts”, which **requires** you to provide the **SSH key** so the Ambari Server can connect to + access the Agent host.

With Option #2, you can manually install the Agent, which **does not** require the SSH key for the Ambari Server.

# Ambari Cluster Install Wizard

## Install Options

Enter the list of hosts to be included in the cluster and provide your SSH key.

### Target Hosts

Enter a list of host names, one per line. Or use [Pattern Expressions](#)

host names

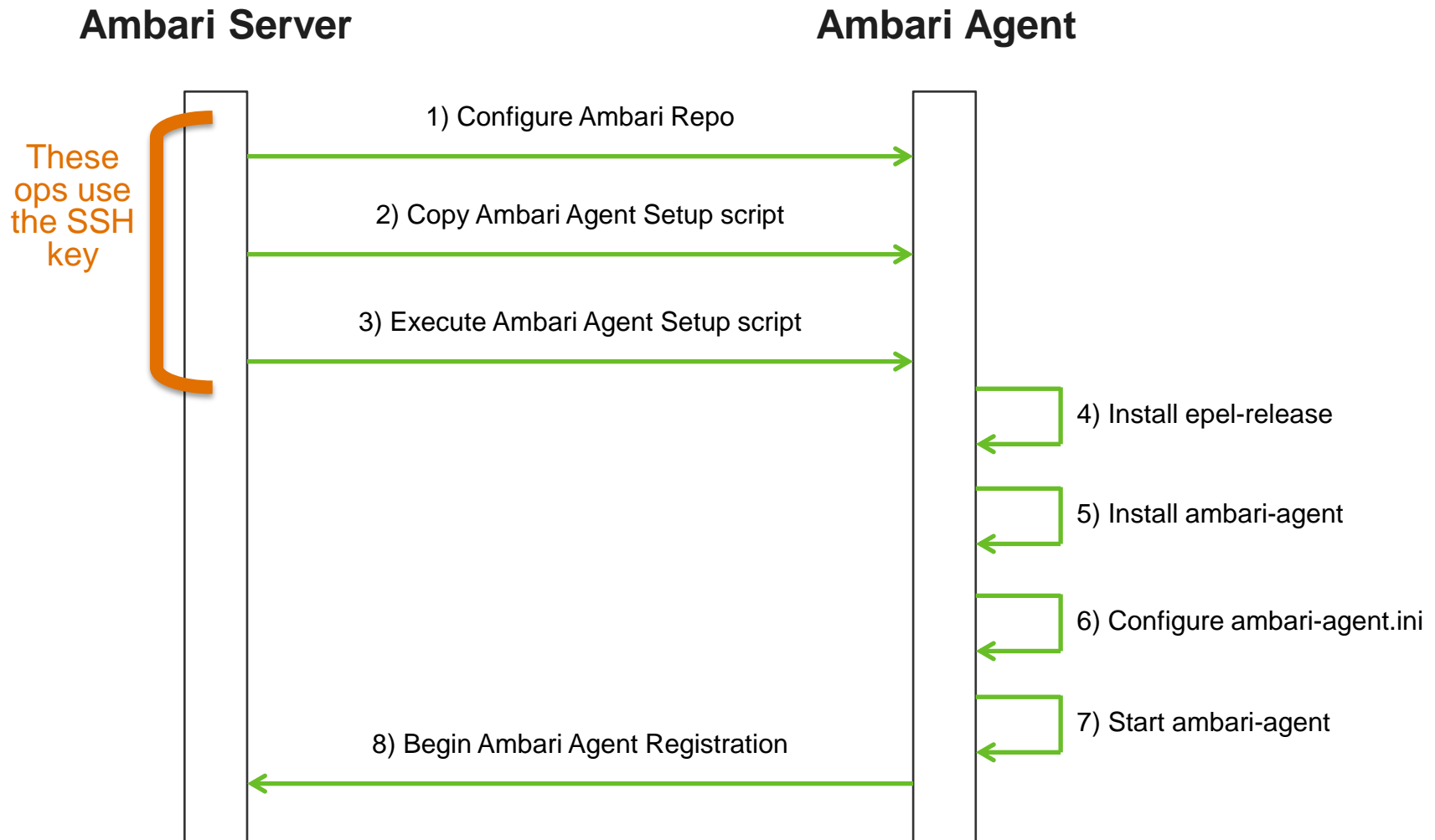
### Host Registration Information

- OPTION 1**  
and  
provide SSH Key
- ☒ Provide your [SSH Private Key](#) (id\_rsa for root) and use SSH to automatically register hosts
- 
- ssh private key
- OPTION 2**
- ☐ Perform [manual registration](#) on hosts and do not use SSH

# Bootstrap

## Operational Flows

# Option #1: Ambari Agent Bootstrap (SSH)



# Option #1: Ambari Agent Bootstrap (SSH)

	Operation	Description
1	Configure Ambari Repo	Use the ambari.repo file on the Ambari Server and SCP to Agent host(s).
2	Copy Ambari Agent Setup script	SCP the setupAgent.py script on Agent host(s).
3	Execute Ambari Agent Setup script	SSH to Agent host(s) and execute python setupAgent.py
4	Install epel-release	Install epel-release package using yum / zypper.
5	Install ambari-agent	Install ambari-agent package using yum / zypper.
6	Configure ambari-agent.ini	Modify the /etc/ambari-agent/ambari-agent.ini and set the hostname to the Ambari Server hostname.
7	Start ambari-agent	Start the ambari-agent process.
8	Begin Ambari Agent Registration	Agent begins the registration process.

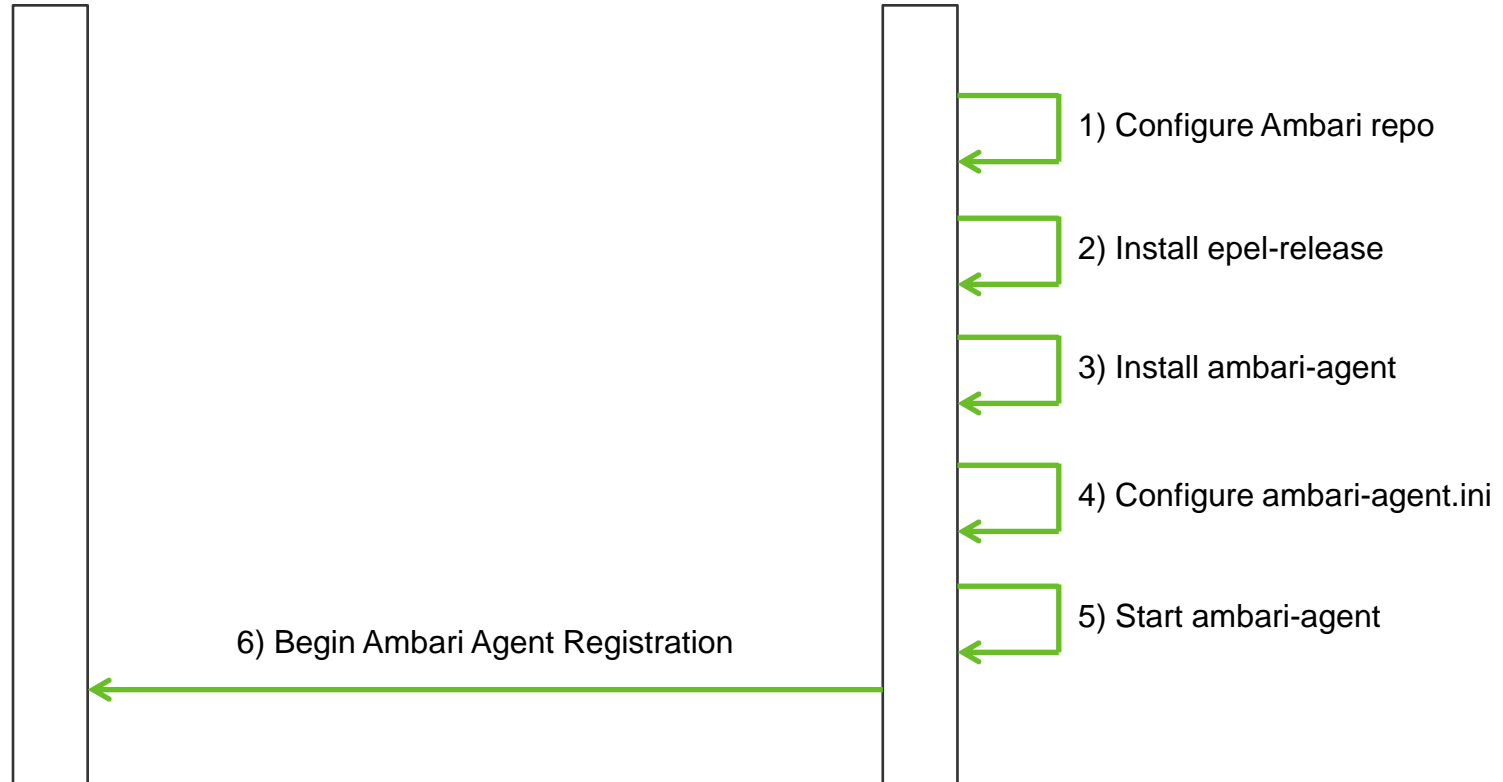
*\*\* Ambari Server initiates the “bootstrap” process by calling bootstrap.py*

# Option #2: Ambari Agent Bootstrap (Manual)

## Ambari Server

## Ambari Agent

No SSH  
ops are  
performed



*\*\* User executes all ops as root on the Agent host(s). No requirement for SSH Private Key.*

# Agent Registration

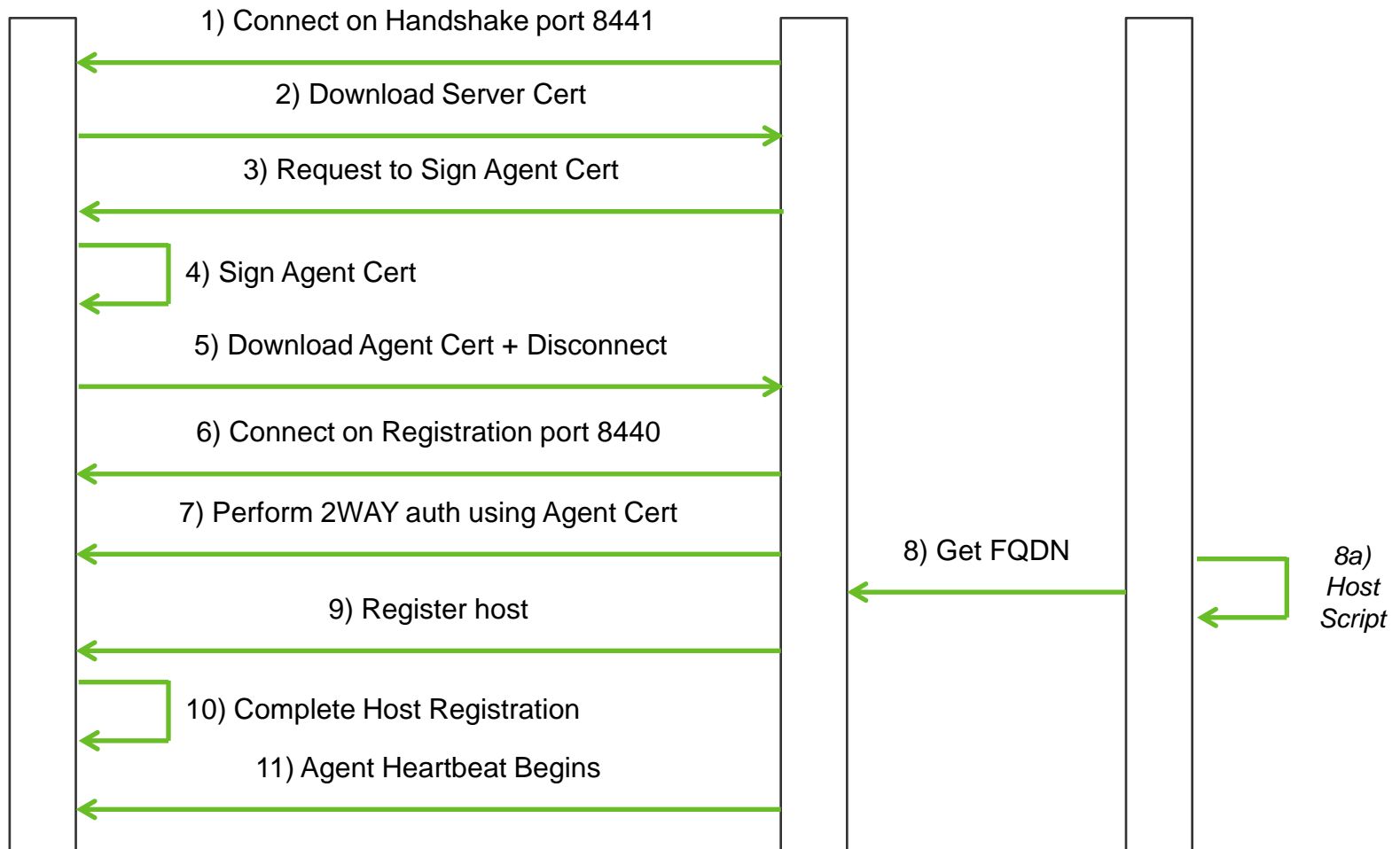


# Ambari Agent Registration

Ambari Server

Ambari Agent

Agent Host



# Ambari Agent Registration

	Operation	Description
1	Connect on Handshake port 8441	Ambari Agent connects to Ambari Server on the handshake port.
2	Download Server Certificate	Ambari Agent downloads the Server Certificate.
3	Request to sign Agent Certificate	Ambari Agent requests for Ambari Server to sign the Agent Certificate.
4	Sign Agent Cert	Ambari Server signs Agent Certificate with password.
5	Download Agent Cert and Disconnect	Ambari Agent downloads Agent Certificate and disconnects.
6	Connect on Registration port 8440	Ambari Agent connects to Ambari Server on the registration port.
7	Perform 2WAY auth using Agent Cert	2WAY authentication between Agent and Server.
8	Get FQDN	Ambari Agent host gets the Fully Qualified Domain Name (FQDN) for the Agent host. <i>Note: (8a) In case the host has multiple hostnames, use the host script to echo the hostname to use for registration.</i>
9	Register Host	Using the FQDN, the Agent host registers with the Ambari Server.
10	Complete Host Registration	Ambari Server completes the host registration by adding the host to the Ambari DB.
11	Agent Heartbeat Begins	Ambari Agent starts heartbeat to Ambari Server, checking for commands to execute.

# Useful Resources

Resource	Link
Using Custom Hostnames Script	<a href="http://docs.hortonworks.com/HDPDocuments/HDP1/HDP-1.2.1/bk_using_Ambari_book/content/ambari-chap7a.html">http://docs.hortonworks.com/HDPDocuments/HDP1/HDP-1.2.1/bk_using_Ambari_book/content/ambari-chap7a.html</a>
Manually Registering Ambari Agents	<a href="http://docs.hortonworks.com/HDPDocuments/HDP1/HDP-1.2.1/bk_using_Ambari_book/content/ambari-chap6.html">http://docs.hortonworks.com/HDPDocuments/HDP1/HDP-1.2.1/bk_using_Ambari_book/content/ambari-chap6.html</a>