



Presto 2.5

Administrator Guide

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Overview

Presto is a new category of enterprise software that brings unprecedented capability to system administrators in delivering network services to mobile users based on location, group membership, tags, and other criteria.

Supported Systems:

Server:

Windows:	Vista 7, 8, 10; Server 2008 R2; Server 2012
Mac:	OS X 10.11 +
Linux:	Ubuntu 14.04 +

Client:

iOS:	8.0 +
Android:	4.4.2 +
Chrome OS:	44 +

Installation

To install the Presto app, follow these three steps:

- Download and run the Presto Server installer for either Windows or Mac OS X.
- Run the Presto app.
- Activate Presto by clicking the **Activate** button and filling in the required information.

Presto Server

Presto Server runs as three system services/daemons on Windows and Mac OS X. This allows Presto Server to service requests even if no one is logged in to the machine where Presto Server is installed.

The system services bind to ports 53/5335/5352 (DNS) and 9629/9630/9631 (HTTP). They can be started and stopped using the following commands.

Windows

```
C:\> net start "Presto Master"  
C:\> net stop "Presto Master"  
C:\> net start "Presto Repeater"  
C:\> net stop "Presto Repeater"  
C:\> net start "Presto Agent"  
C:\> net stop "Presto Agent"
```

Mac

```
bash$ sudo launchctl load  
/Library/LaunchDaemons/com.collobos.prestod.master.plist  
base$ sudo launchctl unload  
/Library/LaunchDaemons/com.collobos.prestod.master.plist  
bash$ sudo launchctl load  
/Library/LaunchDaemons/com.collobos.prestod.repeater.plist  
base$ sudo launchctl unload
```

```
/Library/LaunchDaemons/com.collobos.prestod.repeater.plist
bash$ sudo launchctl load
/Library/LaunchDaemons/com.collobos.prestod.repeater.plist
base$ sudo launchctl unload
/Library/LaunchDaemons/com.collobos.prestod.repeater.plist
```

How It All Works

Presto is federated software that allows system administrators to manage Printer Sharing, AirPlay and Web Sharing for mobile users.

Presto integrates into site DNS to allow mobile devices to discover and make use of network services.

Federation

Presto Server is a fully federated service that can scale from a small single subnet to the most complex enterprise network serving tens of thousands of users.

Presto Server is composed of three components that working together provide Presto service to mobile and desktop users: Presto Master, Presto Repeater, and Presto Agent.

Presto Master

The Presto Master component manages the database associated with Presto.

Presto Repeater

The Presto Repeater component provides Presto service to clients of the Presto system. The repeater discovers and connects to Presto Master, after which it mirrors the database to clients. As the number of users in the Presto environment grows, additional Presto Repeaters can be deployed to load balance the system.

Presto Agent

The Presto Agent component is responsible for discovering the services that will be advertised to clients of the Presto system. The agent discovers and connects to Presto Master, after which it monitors services on the machine it is running on as well as the subnet it is in and updates Presto Master with the information as it is discovered.

For a more complete understanding of the Presto Agent, please read the [Presto Federation manual](#).

Printer Sharing

Presto integrates into the native printing capability of whatever mobile device it supports.

For iOS, this means that Presto integrates into the AirPrint client software that runs on every iOS device. Extra software is **not required** on an iOS device to enable printing once Presto Server has been installed and configured. Presto does have an iOS app to enable additional functionality for both printing and other services.

For Android, users **must** install the Presto app for Android. The app plugs in to the Android printing system, allowing users to print to Presto advertised printers with the native Android print dialog.

For Chrome, users must install the Presto app for Chrome. The app plugs into the Chrome printing system, allowing users to print to Presto advertised printers with the native Chrome print dialog.

AirPlay

AirPlay services do not require that users install the Presto app for iOS.

Web Sharing

Web Sharing services require that users install the Presto app for iOS, Android and Chrome.

DNS Configuration

Configuring DNS allows mobile devices to discover and make use of network services advertised by Presto Server.

No site DNS (Single Subnet)

In a single subnet environment, no external configuration is necessary. Presto utilizes a hybrid implementation of multicast DNS and unicast DNS to allow Presto Client apps to discover Presto Server automatically.

However, it is worth noting that while Presto multicast DNS shares Bonjour's multicast IP address (224.0.0.251), Presto multicast DNS uses port 5335 rather than 5353.

Note: multicast must be enabled on the wireless network.

Site DNS

Presto Server uses a combination of one conditional forwarding record, and a series of reverse lookup records to allow iOS devices to discover Presto Server, and to allow Presto Server to determine what network address (subnet) iOS devices are associated with.

The DNS Service Discovery RFC states that:

"The <domain> part of the query name may also be derived a different way, from the host's IP address. The host takes its IP address and calculates the logical AND of that address and its subnet mask, to derive the 'base' address of the subnet (the 'network address' of that subnet, or, equivalently, the IP address of the 'all-zero' host address on that subnet). It then constructs the conventional DNS "reverse mapping" name corresponding to that base address, and uses that as the <domain> part of the name for the queries described above. For example, if a host has the address 192.168.12.34, with the subnet mask 255.255.0.0, then the 'base' address of the subnet is 192.168.0.0, and to discover the recommended automatic browsing domain(s) for devices on this subnet, the host issues a DNS PTR query for the name "lb._dns-sd._udp.0.0.168.192.in-addr.arpa."

Presto makes use of this feature of DNS Service Discovery to allow Presto Server to

determine the subnet address of an iOS device.

Important: You will want to configure subnets in this way for every subnet that you expect to include iOS users. If you don't have iOS users, then you only need to configure the conditional forwarding record.

The rest of this section **assumes** that you have iOS users and want to configure automatic browsing domains for them.

Windows Server DNS

For this example, let's assume Presto Server was installed on a machine with the IP address 10.0.0.3 on 10.0.0.0/24. Let's also assume one other subnet at 10.0.1.0/24.

Open a command prompt with elevated permissions on your DNS server machine and type the following:

```
C:\> dnscmd . /ZoneAdd presto. /dsforwarder 10.0.0.3

C:\> dnscmd . /ZoneAdd 0.0.0.10.in-addr.arpa. /DsPrimary

C:\> dnscmd . /ZoneAdd 0.1.0.10.in-addr.arpa. /DsPrimary

C:\> dnscmd . /RecordAdd 0.0.0.10.in-addr.arpa b._dns-sd.
_udp PTR 0.0.0.10.dnssd.presto.

C:\> dnscmd . /RecordAdd 0.0.0.10.in-addr.arpa lb._dns-sd.
_udp PTR 0.0.0.10.dnssd.presto.

C:\> dnscmd . /RecordAdd 0.1.0.10.in-addr.arpa b._dns-sd.
_udp PTR 0.1.0.10.dnssd.presto.

C:\> dnscmd . /RecordAdd 0.1.0.10.in-addr.arpa lb._dns-sd.
_udp PTR 0.1.0.10.dnssd.presto.
```

That's it. Your DNS server is now configured to work with Presto.

Note: Presto Server uses multicast DNS service discovery (Bonjour) to discover and advertise Bonjour services on its local link. For this to work, multicast must be enabled on the link.

Unbound DNS

For this example, let's assume Presto Server was installed on a machine with the IP address 10.0.0.3 on 10.0.0.0/24. Let's also assume one other subnet at 10.0.1.0/24.

Further, let's assume your domain is "example.com" and name server is "ns.example.com".

Add the following snippet in **service.conf**:

```
server:

    ...

# Create reverse lookup zone for subnet 10.0.0.0

    local-zone: "0.0.0.10.in-addr.arpa." static

# Add NS record

    local-data: "0.0.0.10.in-addr.arpa. 86400 IN NS
ns.example.com."

# Add SOA record
    local-data: "0.0.0.10.in-addr.arpa. 86400 IN SOA
ns.example.com. hostmaster.example.com. 2008052201 28800
7200 60
4800 86400"

# Add browse domain PTR record

    local-data: "b._dns-sd._udp.0.0.0.10.in-addr.arpa PTR
0.1.10.10.dnssd.presto."

# Add legacy browse domain PTR

    local-data: "lb._dns-sd._udp.0.0.0.10.in-addr.arpa PTR
0.1.10.10.dnssd.presto."

# Create reverse lookup zone for 10.0.1.0

    local-zone: "0.1.0.10.in-addr.arpa." static
```

```
# Add NS record
```

```
    local-data: "0.1.0.10.in-addr.arpa. 86400 IN NS  
ns.example.com."
```

```
# Add SOA record
```

```
    local-data: "0.1.0.10.in-addr.arpa. 86400 IN SOA  
ns.example.com. hostmaster.example.com. 2008052201 28800  
7200 60  
4800 86400"
```

```
# Add browse domain PTR record
```

```
    local-data: "b._dns-sd._udp.0.1.0.10.in-addr.arpa PTR  
0.2.10.10.dnssd.presto."
```

```
# Add legacy browse domain PTR record
```

```
    local-data: "lb._dns-sd._udp.0.1.0.10.in-addr.arpa PTR  
0.2.10.10.dnssd.presto."
```

```
forward-zone:
```

```
    name: presto.  
    forward-addr: 10.0.0.3
```

Bind DNS

For this example, let's assume Presto Server was installed on a machine with the IP address `10.0.0.3`.

Add the following snippet to `named.conf`:

```
zone "presto" IN {
    type forward;
    forward only;
    forwarders {
        10.0.0.3;
    };
};
```

Configuration

Presto Server is configured through a web based app. The app is available on port 9630 of the machine where Presto Server is installed.

The factory default username and password is `admin/admin`.

The app has five tabs which control the mode the console is in: **Dashboard, Rules, Services, Users, or Jobs**.

Dashboard

The **Dashboard** tab provides a quick overview of activity on the network the Presto Server is managing. It shows discovered services and allows quick access to configuration views for each service.

Rules

Administrators manage all service visibility configuration through the **Rules** tab. You can build up arbitrarily complex rules that control service visibility by editing a series of predicates that describe the circumstances under which a particular service becomes visible to a particular user.

Services

All services that Presto has automatically discovered or that the administrator has created are listed in the **Services** tab. Presto Server currently manages Printer Sharing, AirPlay, and Web Sharing services. For each service listed in Presto Server, geolocation and QR codes are automatically created.

Users

Users known to Presto Server are listed in the **Users** tab. Presto does not query any directory service to get a list of users; rather users are added as they login via the Presto Client app. Presto will then get all the groups associated with each user, which can then be used to create rules.

Jobs

Print jobs submitted to the Presto system show up under the **Jobs** tab. It is here that

Administrators can view completed jobs and delete pending or held jobs.

Rules

The Presto Rules facility allows administrators to create policies that control which services are visible to which users, based on the properties of the user, the service, and the context in which the user is browsing for services. The Presto Rules Engine, part of the Presto server, enforces these policies whenever a user browses for services.

Presto rules are concerned with two types of objects: **queries** and **services**.

Queries

Whenever a user takes an action that causes Presto to browse for services (for example, opening a printer selection dialog box), Presto creates a query object to represent the browsing action. The query may contain information about the user's identity, location (if available), the subnet to which their device is connected, and the type of service being requested. Presto also allows you to create tags (descriptive words or phrases) and associate them with users and user groups. You can assign meaning to a tag by writing rules that allow or prohibit the visibility of certain services to users associated with a specific tag.

Services

Presto maintains a database of services that have been discovered on the network, including the location of the service and descriptive information that is typically specific to the type of service. For example, printer descriptions include information about available paper sizes, printer support of duplex printing, and so on. As with users, Presto allows you to assign tag values to specific services, to use in rule conditions to determine the visibility of services to specific users or groups of users.

Matching Queries with Services

Every Presto rule consists of a condition and an action. A Presto rule condition describes a pattern that potentially matches one query and one service. At run time, when a query is created as the result of a user browsing for services, the Presto rules engine evaluates all rule conditions that are applicable to that query, in conjunction with all services that are potential responses to the query, on a pairwise basis. Whenever a particular query and service—taken together as a pair—match the condition of a rule, that pair are said to satisfy the rule.

Presto rule actions are simple. There are only two choices—*advertise* and *do not*

advertise. When a query/service pair satisfies a rule's condition, and the rule action is *advertise*, then the service may be advertised to the query in question. That is, the service may be added to the set of services sent to the user in response to the query. If another rule is satisfied by the same query/service pair, and that rule's action is *do not advertise*, then that service will not be advertised to the query and the service will not be added to the set of services sent to the user in response to the query. The operative phrases in the previous sentences are *may be advertised* and *will not be advertised*. Rules that explicitly prevent a service from being advertised to a query take priority over rules that propose advertising the same service to that query.

This is an important concept to consider when writing rules. A rule with the action *advertise* is proposing that a service be advertised to a query. A rule with the action *do not advertise* is preventing any such proposal from being accepted as an actual advertisement. A service is only advertised to a query if at least one rule proposes the advertisement, and there are no other rules to prevent it.

Rule Configuration

Rules are created and edited in the **Rules View** of the Presto Server Console. The **Rules View** is visible when the **Rules** topic is selected in the leftmost pane of the console (see Figure 1). The **Rules View** contains the **Rule List** (the left pane) and the **Rule Editor** (the rightmost pane).

Figure 1: The Rules View

When a rule name is selected in the Rules List, the corresponding rule displays in the **Rule Editor**.

Editing a Rule

To edit an existing rule, select the rule by name and activate the **Rule Editor** by clicking the **Edit** button at the bottom left corner of the **Rule Editor** pane (see Figure 1). The controls of the **Rule Editor** become active, allowing the rule to be re-named and modified. More discussion of the details of rule structure and composition are provided below, in the section entitled *Rule Structure*.

Creating a Rule

To create a new rule, click the + (plus sign) button in the lower left corner of the **Rule List** pane (see Figure 1). A rule is created with the default name “*New Rule*”, and the editor is opened on the newly created rule (see Figure 2).

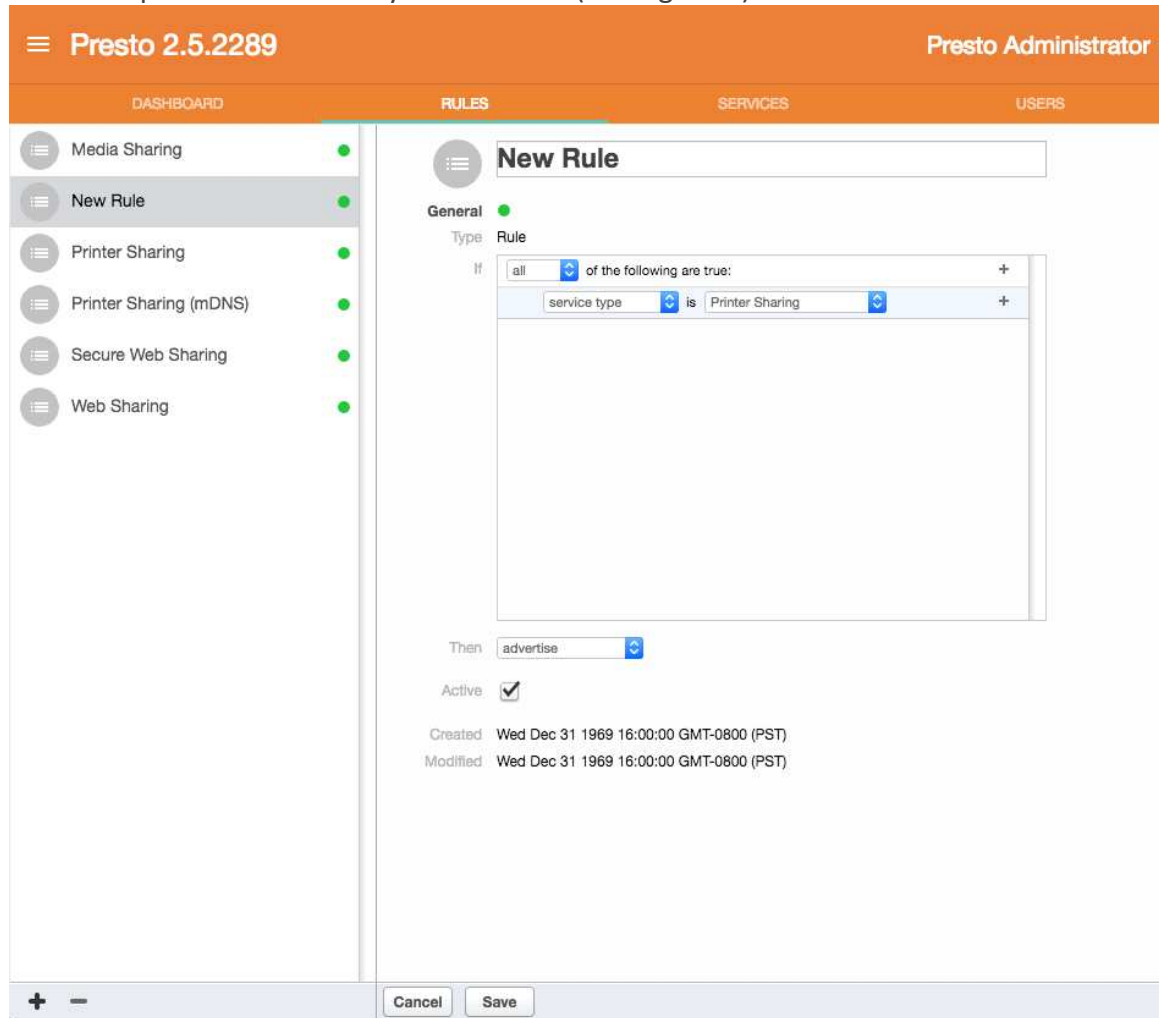


Figure 2: Creating a New Rule

Deleting a Rule

To delete a rule, select its name in the **Rule List** panel and click the – (minus sign) button at the bottom of the **Rule List** panel (see Figure 1).

Rule Conditions

A rule condition consists of a set of or condition elements. A condition element is a statement concerning a query/service pair that is either true or false. Condition elements have two basic forms—simple and compound.

Simple Condition Elements

A simple condition element is single statement that concerns a query, a service, or both, and can either be true or false. The following condition elements are available for composing rules: Service Type, User Tag, User, Service Tag, Device, and Service Name.

Service Type

The service type condition element applies to both the query and the service. Every Presto Rule must include only one service type condition element, as the first condition element in the rule.

Select a service type from the pop-up list of available service types, as shown in Figure

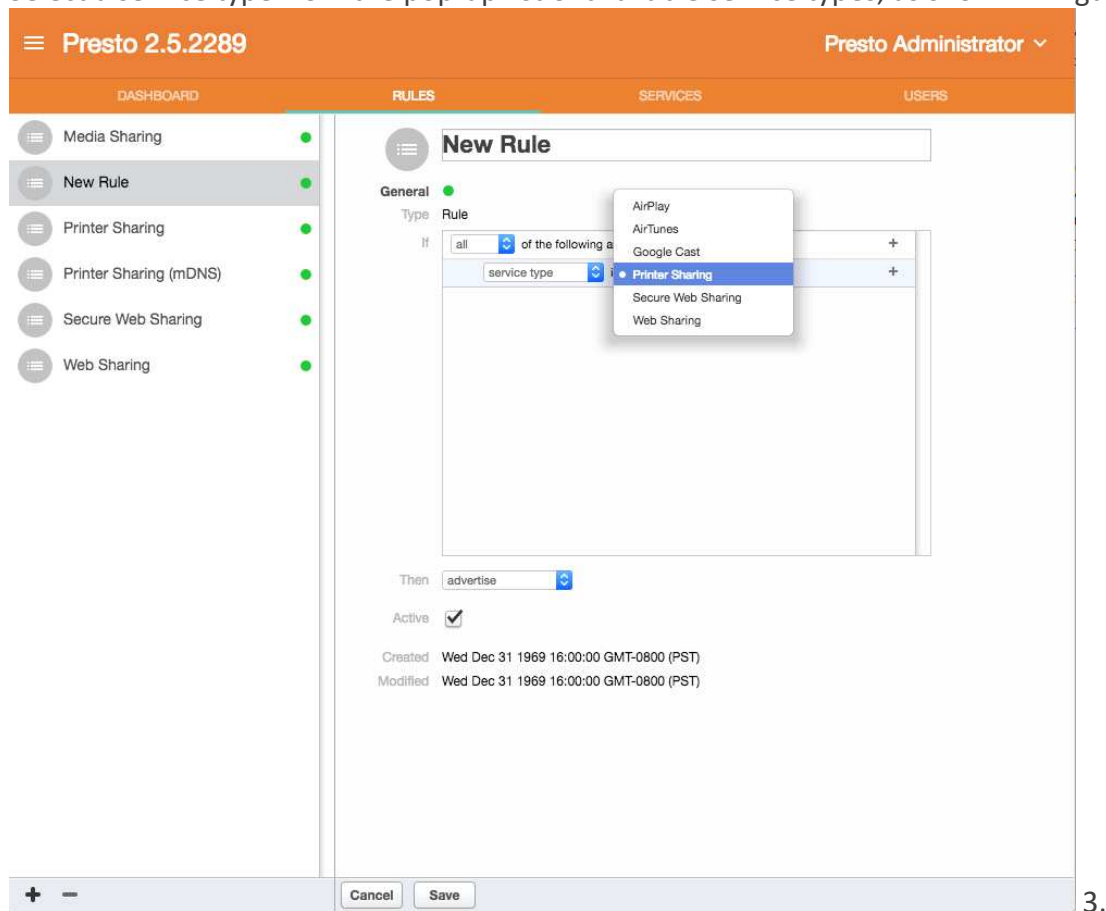


Figure 3: Selecting a Service Type

User Tag

User tags are words or phrases that can be assigned to users by an administrator. The

user tag condition element specifies that a user must be associated with a particular tag value for the rule to be satisfied. This condition element applies only to the query under consideration for rule matching. Tags are assigned to users on the **Users Pane** of the Presto Service Console. A tag value can be chosen from the pop-up list of available tags.

User groups are automatically converted into tags and assigned to users as appropriate. User group tags have the form

```
group:<group_name>
```

where *<group_name>* is the name of the group to which the putative user belongs. For example, if the user groups *admin*, *staff*, and *localaccounts* exist on your system, then the tags `group:admin`, `group:staff`, and `group:localaccounts` will be automatically created and assigned to users that belong to these groups, respectively.

User

Presto can only apply rules about user tags to users who are logged in to the Presto app on their devices. Administrators may choose to apply different rules to users who are anonymous (not logged in via the Presto app). The user condition element specifies whether the putative user is known (logged in) or an anonymous guest (not logged in). The user condition element has a parameter with two possible values, selected from the pop-up list: *guest* and *not guest*. If *guest* is selected, the condition element is true if the user in question is not logged in. If *not guest* is selected, the condition element is true only if the user in question is logged in.

Note that the user tag condition element explained above implicitly assumes that the user is logged in and is not a guest. If a user tag condition element is part of the rule condition, it is not necessary to specify that the user is not a guest by adding the user condition element. Also, if a user tag condition element is specified in a rule, and the rule includes a user condition element with the *guest* parameter selected, that rule can never be satisfied, and is essentially void.

Service Tag

Service tags are identical to user tags, except that they apply to services instead of users. The service tag condition element specifies that a service must be associated with a particular tag value for the rule to be satisfied. This condition element applies only to the service under consideration for rule matching. Tags are assigned to services on the **Services Pane** of the Presto Service Console. A tag value can be chosen from the pop-up list of available tags.

Device (proximity)

Presto does its best to determine the location of services and devices that are making queries, within the limitations of the devices themselves and the environment. The device condition element can be used to specify that only services in the proximity of a device that is browsing for services will be advertised to that device. The specific distance threshold used to define such proximity is fixed at 300 meters. The device condition element doesn't require any parameter value to be specified. For detailed information about how Presto determines device location and uses location information, see the *Presto and Geolocation* section of this document.

Service Name

Presto assigns default names to services. Administrators may, however, override those defaults and assign their own service names. In some cases, administrators may choose to assign names that reflect important information about the service (for example, a printer name might include the name of the building or room in which it resides). The service name condition element allows an administrator to exploit such naming conventions for services by specifying a regular expression that must match the name of a service under consideration for the rule to be satisfied. Presto regular expressions support the standard regex syntax defined for JavaScript/ECMAScript.

The particular regular expression to be applied in the condition element is entered in the element's text input field, as shown in Figure 4.

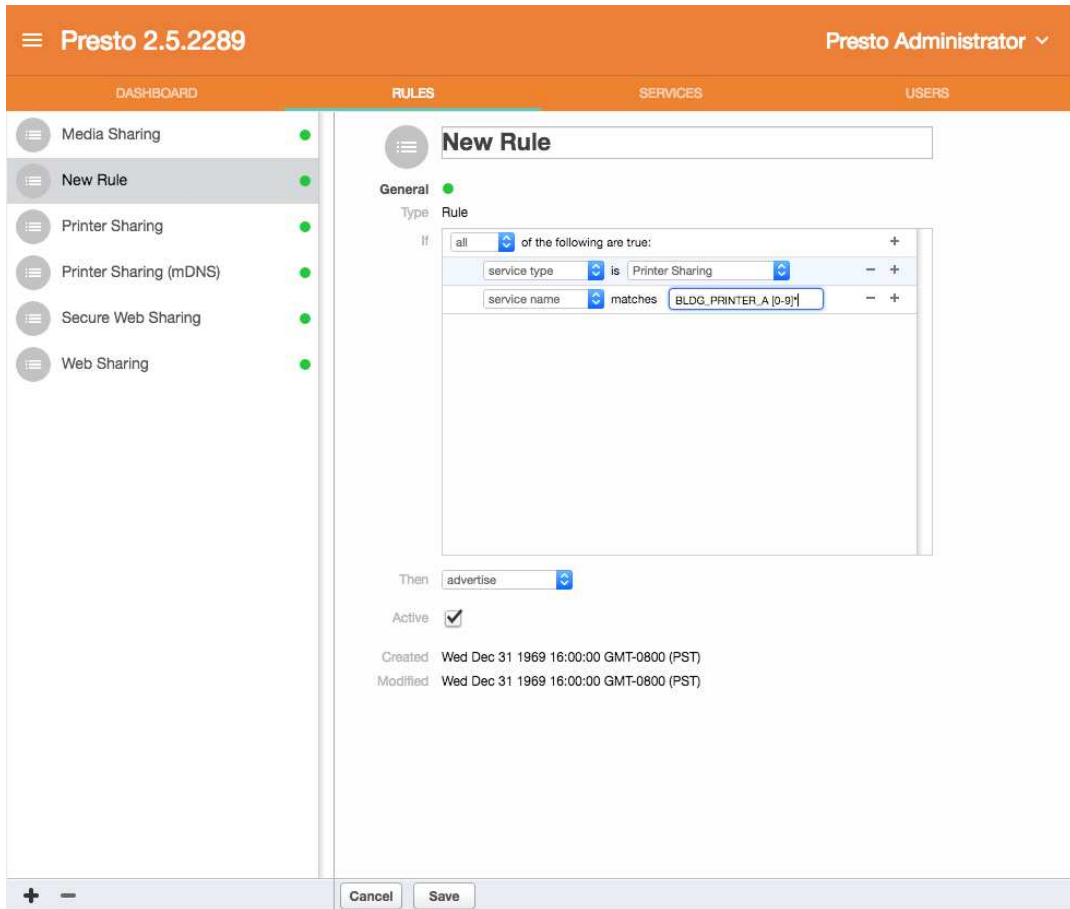


Figure 4: Entering a Service Name Regular Expression

Compound Condition Elements

A compound condition element is a grouping of simple condition elements whose true/false values are combined in one of two ways—*all* or *any*. A compound element of type *all* is true only if all of the elements in the group are true. A compound element of type *any* is true if at least one of the elements in the group is true. Compound condition elements are primarily used to specify multiple user tag or service tag values. For this reason, all of the condition elements nested under a compound condition element must be of the same type, either server tag or user tag.

Rule Validity

Before any rule is saved, it is checked to ensure the structure of the rule is valid. If the rule is not valid, the **Rule Editor** displays an error message explaining the specific problem in the rule structure.

The following constraints must be met by a rule for it to be considered valid:

Every rule must include exactly one service type condition element.

Service name and location condition elements may occur at most once in a rule condition.

Multiple user tag, service tag, or user group condition elements may occur in a rule condition, but they must be nested together as a compound condition element.

Except for the top-level compound condition element of the rule, compound condition elements may only contain simple condition elements. Compound condition elements may not be contained within compound condition elements.

All of the condition elements contained in a compound condition element must be the same condition element type.

If a condition element type occurs at the top level of a rule, another element of the same type may not be contained in a compound element in the same rule.

If a condition element type is contained within a compound condition element, all occurrences of that type must be contained within the same compound element.

Presto and Geolocation

Presto uses available information about the location of user devices and services to support location-based logic for determining when a given service should be advertised to a particular user. The availability and accuracy of location information varies widely under different conditions and circumstances. Understanding how Presto obtains and uses location information will help administrators make informed decisions about configuring services and creating Presto rules.

Most mobile devices determine their location with GPS and/or Wifi technology. Under the best conditions, GPS receivers are typically accurate within 3 to 15 meters. Accuracy may degrade considerably indoors, depending on the type of structure, or if fewer satellites are simultaneously visible. In some cases, location information for a device may not be available at all.

Services such as printers or AirPlay servers do not typically provide location information. Administrators can assign services to specific locations using the Presto Service Console, simply by dropping a pin on a map. For more information, see *Services: Editing Services: Location* in this document.

When location information is not available for a device or service, Presto uses the location of the subnet where the service or device is connected. Subnet location can be set by the administrator in Preferences of the Presto Server Console. If the subnet location is not set explicitly, Presto uses web services for IP-based geolocation to determine the subnet location. These are typically much less accurate than device-

based location data, often off by several kilometers. For more information see *Preferences: Location* in this document.

We strongly recommend that administrators follow these key practices to ensure the best possible results when using location-based logic in Presto Rules:

Set the location of the subnet (via the Presto Server Console preferences) to the centroid of services that are connected to that subnet, such as printers or AirPlay services (Apple TVs). If the subnet is hosted on a wireless AP, use the location of that AP as the subnet's location.

Set the location of fixed services such as printers to their actual locations, as closely as possible.

Recommend that users enable location-based services on user mobile devices and allow the Presto mobile app access to location information at all times.

Services

Presto Server will attempt to discover network services and make those services available to mobile device users. Currently, Presto Server will automatically discover all print queues that are associated with the machine the server is running on. It will also discover any AirPlay devices on the local link on which it is running.

Presto Server also allows manual creation of AirPlay services for those instances in which it doesn't automatically discover the service. Additionally, administrators can create Web Share Services, which will appear on mobile devices as a location based URL.

Attributes

All services in Presto are associated with the following set of attributes: Name, Tags, Location, and QR Code.

- **Name**

The name of a service is used to identify the service in the Presto mobile app.

- **Tags**

Tags are used to associate arbitrary properties to a service. The tags can then be used when writing rules.

- **Location**

The location of a service is used to determine where the service is displayed in the Presto mobile app.

- **QR Code**

The QR code can be printed out and used by the Presto mobile app to access a particular service, assuming the user has rights for the service in question.

Editing Services

Clicking the **Edit** button puts the service in editing mode, as in Figure 7.

Figure 7: Editing Mode for Service

Clicking **Save** will synchronize all changes with the Presto Server. Clicking **Cancel** will cancel the current editing session.

Name

The name of the service can be changed to any valid UTF-8 sequence of characters.

Tags

Tags are user defined symbolic strings that can be associated with sets of services. They are valuable for grouping services that can then be referred when writing rules that dictate service visibility. Tags can be added or removed from a service while in editing mode.

Predefined “`service:do not advertise`” Tag – Presto supports a predefined tag “`service:do not advertise`”. By adding this tag to a service, the service will not be advertised in response to any browse. This behavior overrides the logic expressed in Presto Rules that would otherwise control whether a service is advertised or not.

Location

Every service in Presto is associated with a specific geographic location. Presto makes its best guess when seeing a service for the first time regarding the service’s location. However, the location is almost certainly not exactly where the service is actually located, physically or virtually. When in editing mode, the pin can be dragged to precisely where you want the service to be displayed in the Presto mobile app.

Adding Services

To add a service, click the + (plus) button in the **Services** view as in Figure 5.

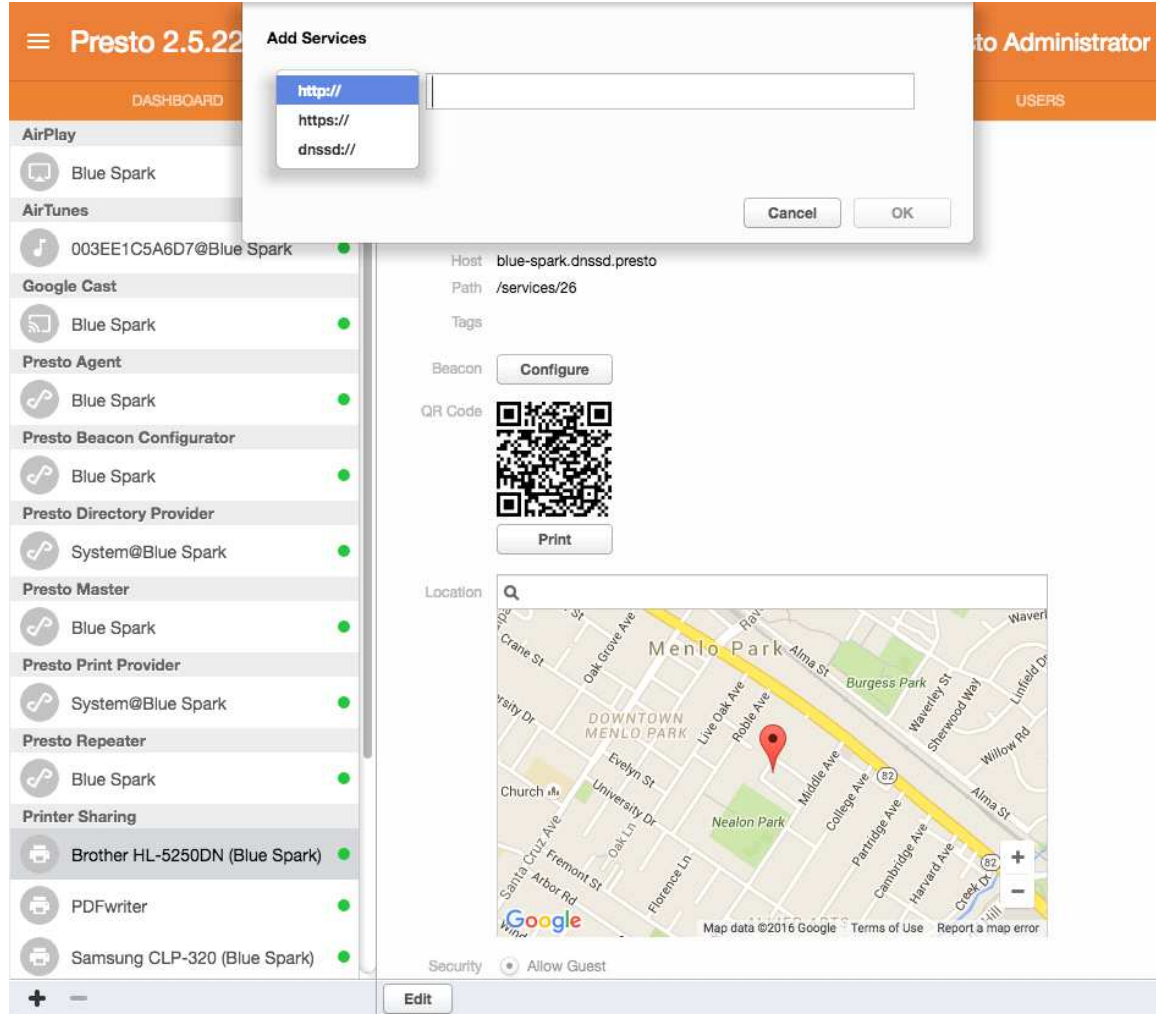


Figure 5: Click the + (Plus) Button to Add a New Service

After clicking the + (plus) button, Presto Server will allow you to specify a DNS-SD, HTTP or HTTPS URL.

DNS-SD

DNS-SD URLs are specified using an actual IP address (e.g. 192.168.1.70). Presto will attempt to contact the device at this IP address and query all the DNS-SD services

that it is currently advertising to make them available to the Presto system.

This capability can be advantageous when there are DNS-SD services on the network that haven't been discovered by Presto because a Presto Agent doesn't happen to be running on the subnet where these services are located.

HTTP/HTTPS

HTTP/HTTPS URLs can be extremely useful in campus and corporate environments where end users might not be familiar with the physical environment. For example, in a college campus setting, system administrators might create Web Shares for all the libraries on campus, and geolocate them to show precisely where the libraries are physically located on campus.

Additionally, HTTP/HTTPS URLs can also work in conjunction with Digital Signage to provide an unparalleled user experience in which users can enjoy the benefits of Digital Signage information on their mobile device without having to type in a URL.

Users

Users are added to Presto as they log in to the Presto mobile app. Currently, users are authenticated against whatever directory service is native to the platform Presto Server is running on.

Windows

On Windows, Presto Server will authenticate against either the local domain (machine only) or the domain the machine is connected to.

Mac

On Mac OS X, Presto Server will authenticate against Open Directory. A complete discussion of Open Directory is beyond the scope of this document, but Open Directory can be configured to participate in an Active Directory environment, in which case Presto Server on the Mac can successfully authenticate users who are using Active Directory credentials.

Limits

Presto is licensed per user. This means that only a certain number of users can use Presto in a rolling 24-hour period.

The Presto Server Console application can be set to manually remove users who have not been active within Presto for at least 24 hours.

Printing

Presto supports printing from iOS, Android, and Chrome OS. We attempt to integrate as seamlessly as we can into the printing workflow of each supported platform.

Direct Printing

Presto will display all printers that the user is allowed to see. The name of the printer will correspond to the name of the service that the system administrator sees in the

Presto Server Console.

When the printer is selected, the job will be sent directly to that printer and will not be put in a holding queue.

Magic Queue

Alternatively, print jobs can be sent to the Magic Queue. The Magic Queue is an on-device holding queue for print jobs. After printing to the Magic Queue, users can return to the Presto app to release the job directly to a printer.

iOS

On iOS, Presto hooks into Apple's AirPrint to perform Magic Queue printing. To release jobs held in the Magic Queue, users must install the Presto app.

Please refer to the [*iOS User Guide*](#) for more information about how to configure Presto for iOS.

Android

Presto for Android uses a print service plugin to integrate into the native printing experience for Android. Please refer to the [Android User Guide](#) for more information about how to configure Presto for Android.

Chrome OS

Presto for Chrome uses a print service plugin to integrate into the native printing experience for Chrome OS. After installing Presto for Chrome and logging into the app, printers that the user is allowed to see will show up when trying to print.

Please refer to the [Chrome User Guide](#) for more specific information about how to configure Presto for Chrome.

Preferences

General

The **General** pane allow you to change the Presto Administrator which is highly recommended.

Network

The **Network** pane allows you to specify which IP address(es) you prefer Presto Server components advertise. This is only relevant when the machine has multiple IP addresses to bind to.

It is also possible to configure any network proxy that might be in use to allow Presto Server to communicate with the Internet.

Location

The **Location** pane allows you to specify a geolocation for the different subnets on your network.

As devices login to Presto Server, it keeps track of the subnet the devices are on and the location of those devices. This is helpful if a subsequent device wants to see services near the device, but doesn't send helpful location info along with the request. Presto Server can take its best guess about where the device is located based on the subnet it is associated with.

Administrators can tweak the settings of the subnet location if another location is deemed more optimal.