

# Tableau Server Trusted Authentication

When you embed Tableau™ Server views into webpages, everyone who visits the page must be a licensed user on Tableau Server. When users visit the page they will be prompted to log into Tableau Server before they can see the view. If you already have a way of authenticating users on the webpage or within your web application, you can avoid this prompt and save your users from having to log in twice by setting up trusted authentication.

Trusted authentication simply means that you have set up a trusted relationship between Tableau Server and one or more web servers. When Tableau Server receives requests from these trusted web servers it assumes that your web server has handled whatever authentication is necessary.

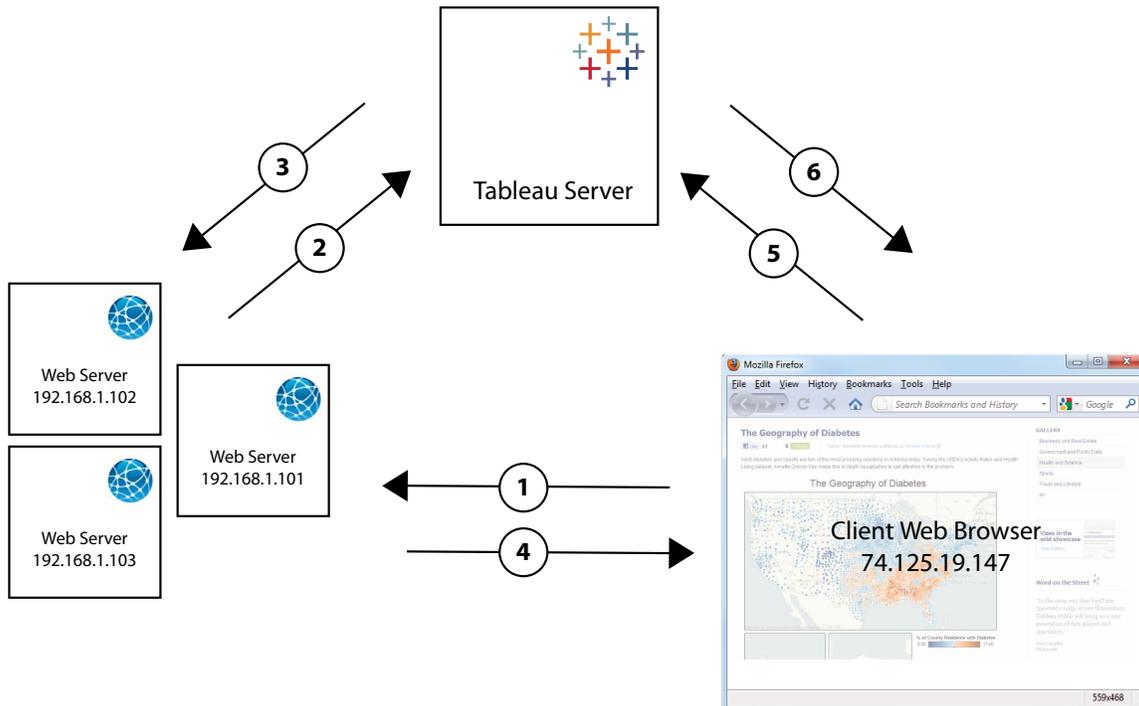
If your web server uses SSPI, you do not need to set up trusted authentication. You can embed views and your users will have access to them as long as they are licensed Tableau Server users and members of your Active Directory. If you are not using SSPI or Active Directory, you will need to set up trusted authentication.

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## How Trusted Authentication Works

The diagram below describes how trusted authentication works between the client's web browser, your web server(s) and Tableau Server.



- 1 User visits the webpage**  
When a user visits the webpage with the embedded Tableau Server view, it sends a GET request to your web server for the HTML for that page.
- 2 Web server POSTS to Tableau Server**  
The web server sends a POST request to Tableau Server. That POST request must have a `username` parameter. The username value must be the username for a licensed Tableau Server user.\*
- 3 Tableau Server creates a ticket**  
Tableau Server checks the IP address of the web server (192.168.1.XXX in the above diagram) that sent the POST request. If it is set up as a trusted host then Tableau Server creates a ticket in the form of a `unique_id`. Tableau Server responds to the POST request with that `unique_id`. If there is an error and the ticket cannot be created Tableau Server will respond with a value of -1.
- 4 Web server passes the URL to the browser**  
The web server then constructs the URL for the embedded view and inserts it into the HTML for the page. The URL includes the `unique_id` (e.g., `http://tabserver/trusted/<unique_id>/views/requestedviewname`). The web server passes all the HTML for the page back to the client's web browser.
- 5 Browser requests view from Tableau Server**  
The client web browser sends a request to Tableau Server using a GET request that includes the URL with the `unique_id`.
- 6 Tableau Server redeems the ticket**  
Tableau Server sees that the web browser requested a URL with a ticket in it and redeems the ticket. Tickets must be redeemed within three minutes after they are issued. Once the ticket is redeemed, Tableau Server logs the user in, removes the `unique_id` from the URL, and sends back the final URL for the embedded view.

## Setting Up Trusted Authentication

Follow the detailed steps below to set up trusted authentication between Tableau Server and one or more web servers.

### Add Trusted IP Addresses to Tableau Server

To configure Tableau Server to recognize and trust requests from one or more web servers, you will use the `tabadmin` command line utility:

1. Open a command window as an administrator and change directories to the location of Tableau Server's bin directory. The default location is `C:\Program Files (x86)\Tableau\Tableau Server\6.1\bin`

2. Type the following command:

```
tabadmin set wgserver.trusted_hosts "<Trusted IP Address>"
```

In the command above, `<Trusted IP Addresses>` should be a comma separated list of the IP addresses of your web server(s). For example:

```
tabadmin set wgserver.trusted_hosts "192.168.1.101, 192.168.1.102,  
192.168.1.103"
```

**Note:** The comma separated list should be within quotes with one space after each comma.

3. When you're finished, type the following command to save the configuration:

```
tabadmin config
```

4. Finally, type the following command to restart the server:

```
tabadmin restart
```

## Configure your Web Server to Send Requests to Tableau Server

When your web server requests a view from Tableau Server, it must contact the server with a POST request. The POST must have the following parameter:

```
username=<username>
```

The `<username>` must be the username for a licensed Tableau Server user. If you are using Local Authentication the username can be a simple string.

If you are using Active Directory with multiple domains you must include the domain name with the user name (e.g., `domain\username`).

You can configure the server to match on client IP address to require the ticket to be redeemed by a specific user using the same machine that issued the original ticket. Because there may be several proxies between the web browser and your web server as well as between your web server and Tableau Server, the client IP address is not considered by default. Refer to [Optional: Configure Tableau Server for Client IP Matching](#) to learn more.

## Set up your Web Server to Construct the URL with the Unique\_Id

When Tableau Server responds to the POST request from the web server, it sends back a ticket in the form of a `unique_id` ([step 3 in the diagram](#)).

The web server needs to construct the appropriate URL that includes the `unique_id` and points at the requested view on Tableau Server. For example, the URL may look like this: `http://tabserver/trusted/<unique_id>/views/<workbook>/<view>`

You will need to provide the web server with functions to collect the following information:

- **Username:** The username for the licensed Tableau Server user.
- **URL:** The URL of the desired embedded view, including embedding option parameters. Here are some examples (see also “Embedding Views” in the [Tableau Server Administrator Guide](#)):

#### *Script Tag Examples*

```
<script type="text/javascript" src="http://myserver/javascrpts/api/viz_v1.js"></script>
<object class="tableauViz" width="900px" height="700px"
style="display:none;">
  <param name="name" value="MyCoSales/SalesScoreCard" />
  <param name="ticket" value="123456789" />
</object>
```

Another option is to state the full path of the view explicitly:

```
<script type="text/javascript" src="http://myserver/javascrpts/api/viz_v1.js"></script>
<object class="tableauViz" width="900px" height="700px"
style="display:none;">
  <param name="name" value="MyCoSales/SalesScoreCard" />
  <param name="path" value="trusted/123456789/views/MyCoSales/
SalesScoreCard" />
</object>
```

#### *Iframe Tag Example*

```
<iframe src="http://tabserver/trusted/123456789/views/workbookQ4/
SalesQ4?:embed=yes" width="900px" height="700px"></iframe>
```

- **IP address:** The IP address of the user’s machine (only if configured for client trusted IP matching).

There are several code samples that you can use to set up your web server that are included with Tableau Server. Example code for Java, Ruby, and PHP are located at: C:\Program Files (x86)\Tableau\Tableau Server\6.1\extras\embedding.

## Optional: Configure Tableau Server for Client IP Matching

By default, Tableau Server does not consider the client web browser IP address when it creates or redeems tickets.

You can change the default behavior and enforce that the ticket not only must be redeemed by a specific user but also that it must use the same machine that issued the original request. Follow the steps below to configure Tableau Server to enforce client IP address matching.

1. Open a command window and change directories to the location of Tableau Server's bin directory. The default location is `C:\Program Files (x86)\Tableau\Tableau Server\6.1\bin`

2. Open a command prompt as an administrator and type the following command:

```
tabadmin set wgserver.extended_trusted_ip_checking true
```

3. Then type the following command:

```
tabadmin configure
```

4. Finally, restart the server by typing the following:

```
tabadmin restart
```

## Troubleshooting Trusted Authentication

Below are some common issues and errors you might encounter when you're configuring trusted authentication.

### -1 Return Status from Tableau Server

Tableau Server returns -1 for the ticket value if it cannot issue the ticket. Check the following:

- **All Web Server IP Addresses are Added to Trusted Hosts**

The IP Address for the machine sending the POST request must be in the list of trusted hosts on Tableau Server. See [Add Trusted IP Addresses to Tableau Server](#) to learn how to add IP addresses to this list.

- **Trusted Hosts List is Formatted Properly**

The list of trusted hosts on Tableau Server must be a comma separated list with a space after each comma. For example, the list should be something like: 192.168.1.101, 192.168.1.102, 192.168.1.103 and so on.

- **Username in POST Request is Valid Tableau Server User**

The username you send in the POST request must be a licensed Tableau Server user with a viewer or interactor license level. You can see a list of users and their license levels by logging into Tableau Server as an administrator and clicking the Licensing link on the left side of the page. Refer to the [Tableau Server Administrator Guide](#) to learn more about administrating users.

- **Username in POST Request Includes Domain**

If Tableau Server is configured to use Local Authentication, the username that you send in the POST can be a simple string. However, if the server is configured for Active Directory you must include the domain name with the user name (domain\username). For example, the username parameter might be: username=dev\jsmith

### HTTP 401 - Not Authorized

If you receive a 401- Not Authorized error, you may have configured Tableau Server to use Active Directory with SSPI. If your web server uses SSPI, you do not need to set up trusted authentication. You can embed views and your users will have access to them as long as they are licensed Tableau server users and members of your Active Directory.

### HTTP 404 - File Not Found

You may receive this error if your program code references a Tableau Server URL that does not exist. For example, your web server may construct an invalid URL that cannot be found when the webpage tries to retrieve it.

### Invalid User (SharePoint or C#)

The example code for the SharePoint DLL references the following GET request:

```
SPContext.Current.Web.CurrentUser.Name
```

The above request will return the display name of the current Windows Active Directory user. If you want to use the login ID, then you will need to change the code to:

```
SPContext.Current.Web.CurrentUser.LoginName
```

After you make the change, recompile the SharePoint DLL.

### Attempting to Retrieve the Ticket from the Wrong IP Address

The client web browser IP address is not considered by default when redeeming the ticket. If you have configured Tableau Server to enforce client IP address matching, make sure that the client's web browser IP address that is sent in the POST to Tableau Server is the same as when the browser tries to retrieve the embedded view. For example, in the Trusted Authentication diagram, if the POST request (see [step 3 in the diagram](#)) sends the parameter `client_ip=74.125.19.147`, then the GET request in step 5 must come from that same IP address.

Refer to [Optional: Configure Tableau Server for Client IP Matching](#) to learn how to configure Tableau Server to enforce client IP address matching.