FortiNAC - Captive Network Assistant Guide

Version 9.4.5

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FortiNAC 9.4.5 Captive Network Assistant Guide
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Overview

What it Does

Using a Valid SSL Certificate for captive portal security will not completely eliminate certificate errors. If the host requests secure access using a URL such as https://www.google.com, the request will be redirected to the captive portal for FortiNAC as https. This maintains the https security level, but ultimately the certificate name will not match (the request will be for google.com and the response will be from FortiNAC's address) so there is a trust mismatch and the host will translate this to a possible hijacking attempt.

Alternately, if the host requests secure access using a URL, such as https://www.google.com, and if FortiNAC did not maintain the security level of https and returned http instead, this would lead to an encryption error because the request was https and the response was http. This general conundrum is well-established among vendors who provide captive portals. See related links in the Appendix.

The only way to avoid such errors would be to ensure the browser attempts access to FortiNAC initially. Captive portal solutions address this issue: once the host is isolated, a browser window is automatically opened with the captive portal page presented.

How it Works

Launching the Portal

When a computer connects to the network, requests are sent to certain sites (depending upon the operating system). If the response is anything other than what is expected, it is assumed there is no internet connection. The captive portal automatically launches (presenting the FortiNAC's portal) and the user is notified that they are in a Captive Network. Once the captive portal launches, the user enters information to register.

There are different captive portal detection solutions depending upon the operating system:

Microsoft and Android - Captive Portal Detection (uses full browser)

iOS and macOS - Captive Network Assistant (CNA) (uses mini browser)

Note the following:

- When enabled, this feature is enabled for all portals. It cannot be enabled on a per portal basis.
- This feature should not be used when using Endpoint Compliance Policies for MAC computers. Since macOS launches a mini browser, users cannot download items, such as the agent, from within the Captive Network Assistant.
- Domains used to determine whether or not to launch the browser will differ (see Edit the Allowed Domains List). In addition, the end user experience can vary between vendor and operating systems.
- This feature only runs a limited scope of Javascript, and HTML requests will not open a new browser

window. Clicking a link while using this feature will result in the current browser window being replaced by the new browser window.

Self Registration

The following process occurs:

1. Captive portal is automatically launched once the endpoint is moved to isolation.
2. User fills in the registration request form.
3. Once the request is submitted, the browser is redirected to the Guest Login page.
4. If sponsor approval is required, the user is notified and provided the appropriate credentials once the request is approved.
5. User enters the credentials in the Guest Login page.

If a wireless connection is dropped, the captive network window may automatically close. Interruptions in connectivity causes the established TCP connection between the host and FortiNAC server to be reset. If this occurs, the captive portal will be redirected to the main Login Menu when the endpoint reconnects to the network. If this occurs, the user can complete the registration process by clicking on the Guest Login option from the main menu. For instructions, see Enable Guest Login Menu Option.

Requirements

- FortiNAC version 8.2 and above
- Valid 3rd party SSL certificate installed for the Portal target. For instructions, refer to the SSL Certificate cookbook recipe in the Fortinet Document Library.
- Portal page Fully-Qualified Host Name cannot use a ".local" domain. See KB article 191201 for details.

Considerations

- Samsung phones with newer Android versions do not automatically launch browser when Captive Network Assistant is enabled. See related KB article 195187.

Configuration

Modify Allowed Domains List

1. Navigate to **System > Settings > Control > Allowed Domains**
2. Modify the entries as appropriate based on the Operating System:

   Windows

   Remove:

   msftncsi.com

   ipv6.msftncsi.com

   ipv6.msftncsi.com.edgesuite.net

   www.msftncsi.com

   www.msftncsi.com.edgesuite.net

   teredo.ipv6.microsoft.com

   teredo.ipv6.microsoft.com.nsatc.net

   Android

   Remove:

   clients3.google.com

   clients4.google.com

   connectivitycheck.google.com

   connectivitycheck.gstatic.com

   iOS/macOS

   Remove:

   icloud.com

   apple.com

   akamaiedge.net

   akamaitechnologies.com

   appleiphonecell.com

   www.airport.us

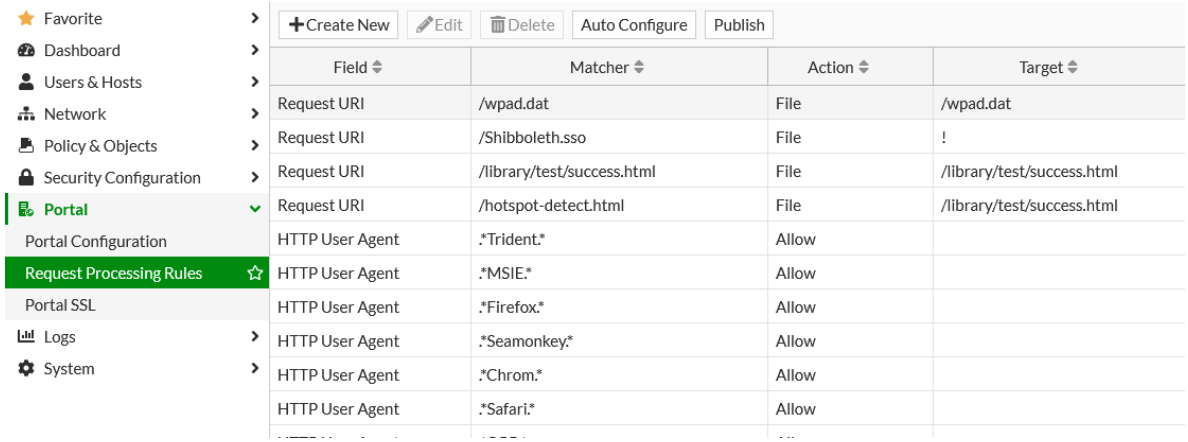
   edgekey.net

   aaplimg.com

   akadns.net
3. Click **Apply**.

Enable CNA (iOS/macOS/Samsung Android)

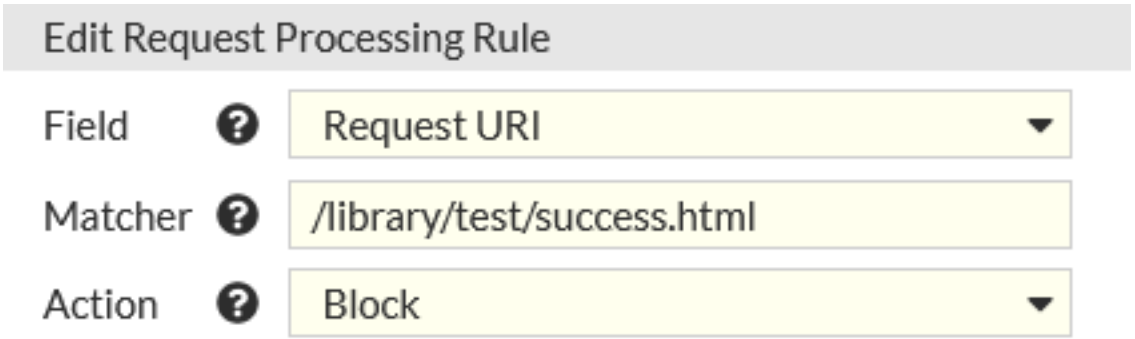
1. Navigate to **Portal > Request Processing Rules.**

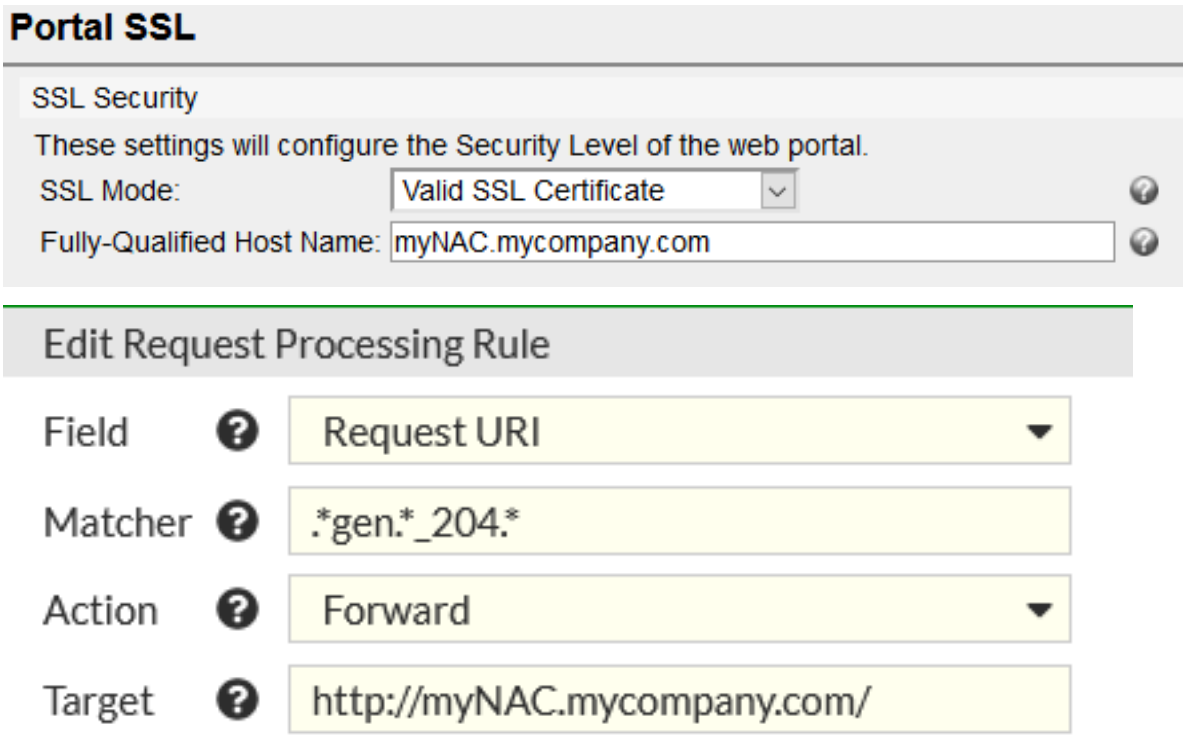


2. Look for entries with the following Matcher values:
   /library/test/success.html
   /hotspot-detect.html
   .*gen.*_204.*
3. Highlight the entry and click **Edit**. Edit the entries to match the values in the chart below. If no such entry exists, click **Create New** and create the entry.

OS	Field	Matcher	Action	Target
iOS 6 and below	Requested URI	/library/test/success.html	Block Request	N/A
iOS 7 and above	Requested URI	/hotspot-detect.html	Block Request	N/A
Samsung Android	Requested URI	.*gen.*_204.*	Forward to URL	http://<Portal FQDN>/

Examples:



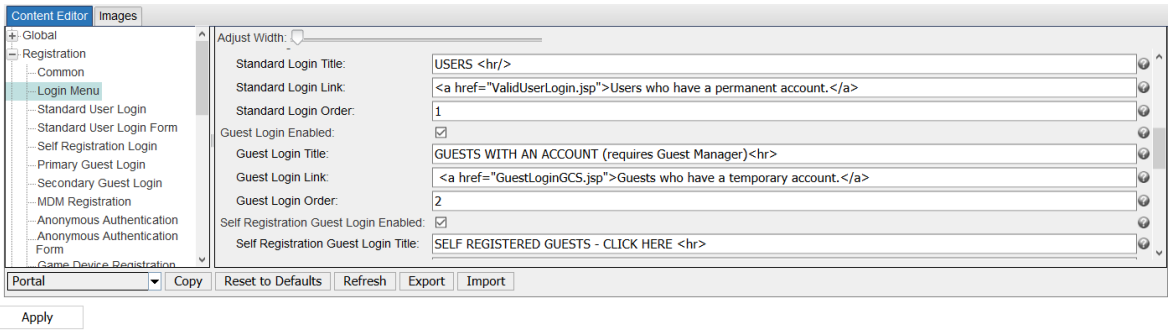


4. Click **OK** to save.
5. Once all three entries have been modified, click **Publish** to write the changes to Apache and restart the service**.**

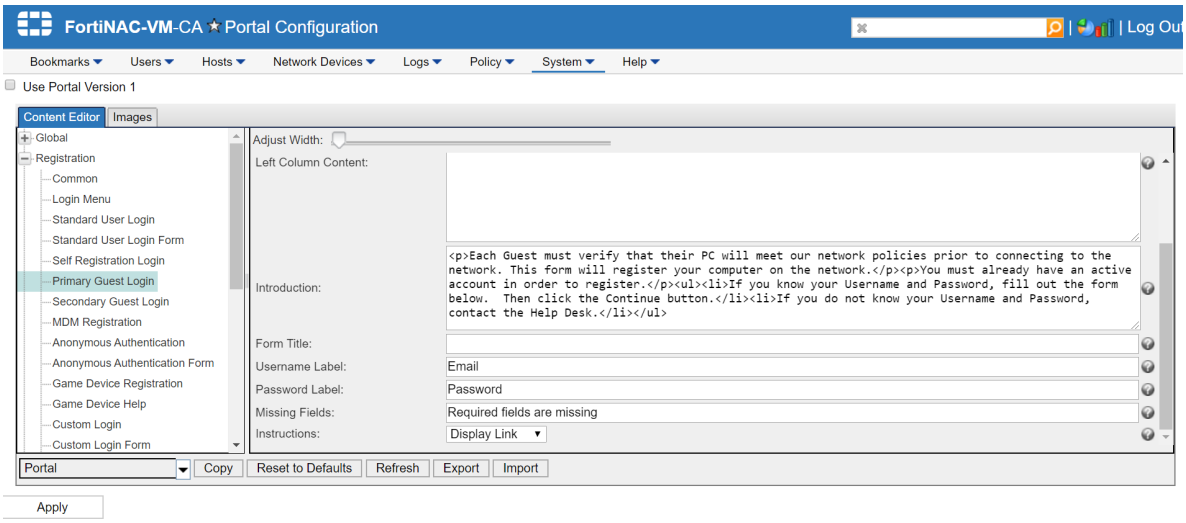
Enable Guest Login Menu Option

If Self-Registration is used, ensure the Guest Login is accessible from the main Login Menu. This will allow users to register if they have been redirected to the main Login Menu.

1. Navigate to **Portal > Portal Configuration.**
2. Select the Portal to modify from the portal drop down.
3. In the Content Editor, navigate to **Registration > Login Menu.**
4. Enable by selecting the check box next to **Guest Login Enabled.**



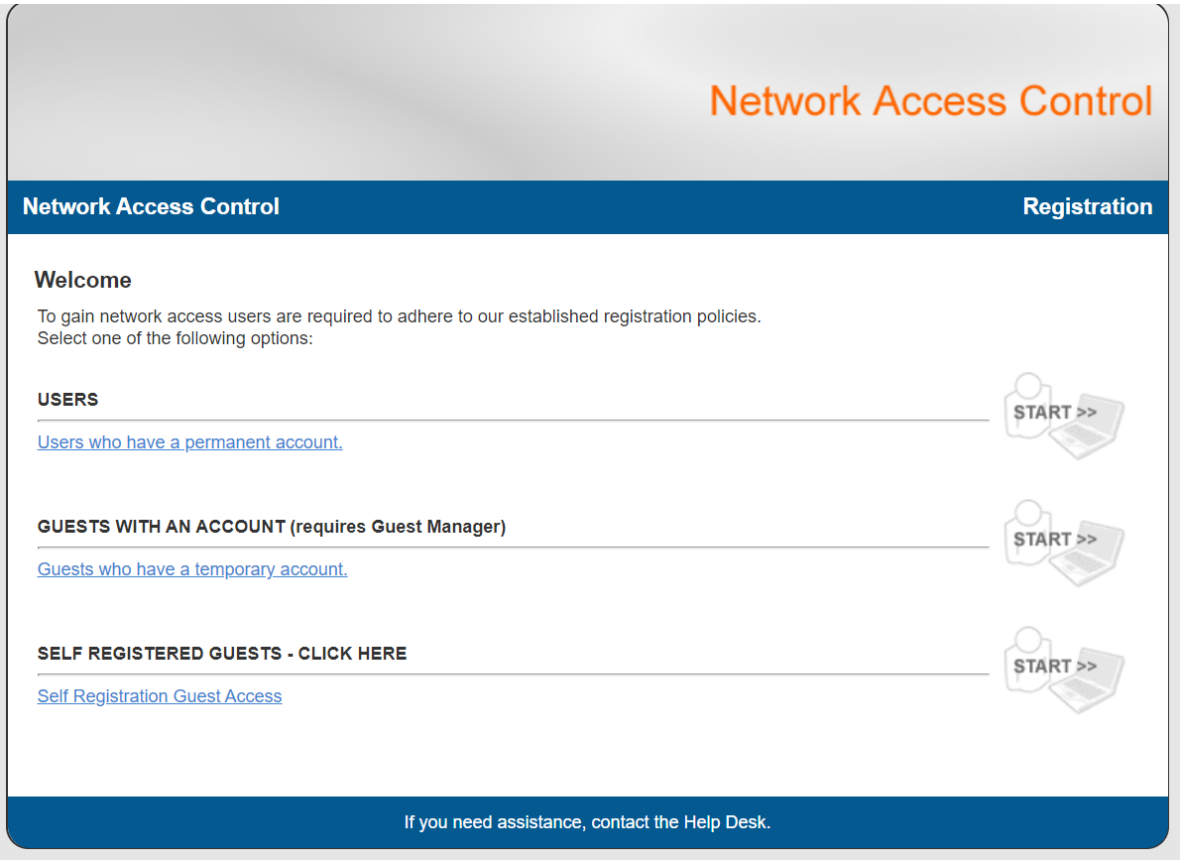
5. To modify the content of the guest login page, select “Primary Guest Login” in the content editor.



6. Click **Apply**.

Validate

1. Connect rogue device and verify popup appears prompting for credentials.
2. If Self-Registration is an option, confirm the Guest Login link is available in the mail Login Menu.


Network Access Control
Network Access Control
Registration
Welcome
To gain network access users are required to adhere to our established registration policies.
Select one of the following options:
USERS
Users who have a permanent account.
START >>
GUESTS WITH AN ACCOUNT (requires Guest Manager)
Guests who have a temporary account.
START >>
SELF REGISTERED GUESTS - CLICK HERE
Self Registration Guest Access
START >>
If you need assistance, contact the Help Desk.

Troubleshooting

Related KB Articles

Troubleshooting Captive Network Assistant

Samsung Android Web Service Definition Target URL displays incorrectly

Appendix

Certificate Error Reference Links

http://serverfault.com/questions/596844/ssl-certificate-errors-in-captive-portals

http://forum.m0n0.ch/forum/topic,5988.0.html

https://forums.untangle.com/feedback/31539-captive-portal-session-redirect-https.html

https://supportforums.cisco.com/discussion/11940491/how-redirect-https-traffic-captive-portal

Disable CNA

1. Navigate to **Portal > Request Processing Rules.**
2. Look for entries with the following Matcher values:
   /library/test/success.html
   /hotspot-detect.html
   .*gen.*_204.*
3. Highlight the entry and click **Edit**. Change the entries to match the values in the chart below.

OS	Field	Regex Matcher	Action	Target
iOS 6 and below	Requested URI	/library/test/success.html	Allow Request	N/A
iOS 7 and above	Requested URI	/hotspot-detect.html	Allow Request	N/A

4. Click **OK** to save.
5. Highlight the entry **.*gen.*_204.*** and click **Delete**.
6. Once all three entries have been modified, click **Publish** to write the changes to Apache and restart the service**.**
7. Navigate **Network > Settings > Control > Allowed Domains** and undo modifications:
   Windows
   Add:
   msftncsi.com

   Android
   Add:
   clients3.google.com
   clients4.google.com

connectivitycheck.google.com
connectivitycheck.gstatic.com

iOS/macOS
Add:
icloud.com
apple.com
akamaiedge.net
akamaitechnologies.com
appleiphonecell.com
www.airport.us
edgekey.net
aaplimg.com
akadns.net

Contact Support for assistance.