# **How do I redirect HTTP traffic on my server to HTTPS on my load balancer?**

### **Issue**

I am using both HTTP and HTTPS listeners on my Elastic Load Balancing load balancer, but only HTTP listeners on my backend web server. I want all traffic coming to my web server on port 80 to be redirected to HTTPS port 443, and I don’t want to change my backend listener to port 443. If I redirect traffic in this way, my website stops working, and I receive the error message ERR\_TOO\_MANY\_REDIRECTS. How do I resolve this?

### **Short Description**

Usually, this is due to a process similar to the following:

1. The rewrite rule on the web server for directing HTTP requests to HTTPS causes requests to use port 443 for HTTPS traffic on the load balancer.
2. The load balancer still sends the requests to the backend web server on port 80.
3. The backend web server redirects these requests to port 443 on the load balancer.

This causes an infinite loop of redirection between the load balancer and the backend web server, and the requests are never served.

### **Resolution**

Using the [X-Forwarded-Proto header](http://docs.aws.amazon.com/elasticloadbalancing/latest/classic/x-forwarded-headers.html#x-forwarded-proto) of the HTTP request, change your web server’s rewrite rule to apply if and only if the client protocol is HTTP. Ignore the rewrite rule for all other protocols used by the client.

This way, if clients use HTTP to access your website, they are redirected to an HTTPS URL, and if clients use HTTPS, they are served directly by the web server.

For example, the rewrite rule for an Apache backend would look similar to the following in .htaccess:

...  
RewriteEngine On  
RewriteCond %{HTTP:X-Forwarded-Proto} =http  
RewriteRule . https://%{HTTP:Host}%{REQUEST\_URI} [L,R=permanent]  
...

The rewrite rule for an IIS backend would look similar to the following in the web.config file under <system.webServer> section:

Note: Before making changes to your web.config file, you must install the URL rewrite module from Microsoft IIS Downloads.

<?xml version="1.0" encoding="UTF-8"?>  
<configuration>  
 <system.webServer>  
 <rewrite>  
 <allowedServerVariables>  
 <add name="HTTPS" />  
 <add name="X-FORWARDED-PROTO" />  
 </allowedServerVariables>  
 <rewriteMaps>  
 </rewriteMaps>  
 <globalRules>  
 <rule name="HTTPS ReWrite" stopProcessing="true">  
 <match url="(.\*)" />  
 <action type="Redirect" url="https://{HTTP\_HOST}{REQUEST\_URI}" redirectType="Permanent" />   
 <conditions logicalGrouping="MatchAny">  
 <add input="{HTTP\_X\_FORWARDED\_PROTO}" pattern="http" />  
 </conditions>  
 </rule>  
 </globalRules>  
 </rewrite>  
 </system.webServer>  
</configuration>

With this configuration for Apache and IIS, you can also perform ELB health checks on HTTP port 80. ELB health checks do not add the X-Forwarded-Proto header for health check requests. When the condition “HTTP\_X\_FORWARDED\_PROTO = http” is evaluated, it fails, and the rewrite action does not take place. The web server responds with the page to be served over HTTP.