```
TNE30024 - Laboratory - HTTPS: chained.tne30024
===============================================
Date: 20240905_1348
Last 5 Logons:
student    pts/6    10.1.37.27              Thu Sep  5 10:31   still logged in
boot time                                   Wed Sep  4 19:37
boot time                                   Wed Sep  4 19:37
root       pts/1                            Fri Aug  2 13:25 - 13:26  (00:00)
root       pts/1                            Fri Aug  2 12:19 - 13:12  (00:52)


RULE host Socket information
www      httpd      22238 3  tcp4  136.186.230.103:80     *:*
www      httpd      22238 4  tcp4  136.186.230.103:443    *:*
www      httpd      22237 3  tcp4  136.186.230.103:80     *:*
www      httpd      22237 4  tcp4  136.186.230.103:443    *:*
www      httpd      22236 3  tcp4  136.186.230.103:80     *:*
www      httpd      22236 4  tcp4  136.186.230.103:443    *:*
www      httpd      22235 3  tcp4  136.186.230.103:80     *:*
www      httpd      22235 4  tcp4  136.186.230.103:443    *:*
www      httpd      22232 3  tcp4  136.186.230.103:80     *:*
www      httpd      22232 4  tcp4  136.186.230.103:443    *:*
www      httpd      22230 3  tcp4  136.186.230.103:80     *:*
www      httpd      22230 4  tcp4  136.186.230.103:443    *:*
www      httpd      22229 3  tcp4  136.186.230.103:80     *:*
www      httpd      22229 4  tcp4  136.186.230.103:443    *:*
www      httpd      22228 3  tcp4  136.186.230.103:80     *:*
www      httpd      22228 4  tcp4  136.186.230.103:443    *:*
www      httpd      22227 3  tcp4  136.186.230.103:80     *:*
www      httpd      22227 4  tcp4  136.186.230.103:443    *:*
www      httpd      22226 3  tcp4  136.186.230.103:80     *:*
www      httpd      22226 4  tcp4  136.186.230.103:443    *:*
root     httpd      22225 3  tcp4  136.186.230.103:80     *:*
root     httpd      22225 4  tcp4  136.186.230.103:443    *:*
jbut     sshd       14408 3  tcp4  136.186.230.103:22     10.1.37.27:54571
root     sshd       14405 3  tcp4  136.186.230.103:22     10.1.37.27:54571
bind     named      89412 25 udp4  136.186.230.103:53     *:*
bind     named      89412 26 udp4  136.186.230.103:53     *:*
bind     named      89412 28 tcp4  136.186.230.103:53     *:*
bind     named      89412 29 tcp4  136.186.230.103:953    *:*
jbut     sshd       87954 3  tcp4  136.186.230.103:22     10.1.37.27:53438
root     sshd       87950 3  tcp4  136.186.230.103:22     10.1.37.27:53438
root     sshd       86968 3  tcp4  136.186.230.103:22     *:*
?        ?          ?     ?  tcp4  136.186.230.103:443    10.1.37.27:54803
?        ?          ?     ?  tcp4  136.186.230.103:443    10.1.37.27:54804
?        ?          ?     ?  tcp4  136.186.230.103:443    10.1.37.27:54808
?        ?          ?     ?  tcp4  136.186.230.103:443    10.1.37.27:54810
?        ?          ?     ?  tcp4  136.186.230.103:443    10.1.37.27:54811
?        ?          ?     ?  tcp4  136.186.230.103:443    10.1.37.27:54812
?        ?          ?     ?  tcp4  136.186.230.103:443    10.1.37.27:54814
?        ?          ?     ?  tcp4  136.186.230.103:443    10.1.37.27:54816
?        ?          ?     ?  tcp4  136.186.230.103:443    10.1.37.27:54818
?        ?          ?     ?  tcp4  136.186.230.103:443    10.1.37.27:54826
?        ?          ?     ?  tcp4  136.186.230.103:19438 136.186.230.103:80
?        ?          ?     ?  tcp4  136.186.230.103:19439 136.186.230.103:80


*******************************************************************************
 In order to pass this lab, your RULE host must have a Web server running that

 1) Web server is running and serves pages
 2) Attempt to access https://chained.tne30024 should fail due to not recognising root certificate
 3) Attempt to access https://chained.tne30024 should succeed with provided root certificate
 4) Download page should match expected HTML

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CHECKING DNS CONFIGURATION
==========================
Querying for (chained.tne30024) using DNS server (136.186.230.103) - Correct answer (136.186.230.103)
Using domain server:
Name: 136.186.230.103
Address: 136.186.230.103#53
Aliases:

chained.tne30024 is an alias for rule103.tne30024.
rule103.tne30024 has address 136.186.230.103
Test Result: PASSED
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ADDING DNS SERVER 136.186.230.103 TO SYSTEM RESOLV.CONF
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DOWNLOAD PAGE NOT TRUSTING SELF-SIGNED CERTIFICATES
=================================================
HTTP QUERY https://chained.tne30024
=================================
--2024-09-05 13:48:47--  https://chained.tne30024/
Resolving chained.tne30024 (chained.tne30024)... 136.186.230.103
Connecting to chained.tne30024 (chained.tne30024)|136.186.230.103|:443... connected.
ERROR: cannot verify chained.tne30024's certificate, issued by 'CN=intermediate.tne30024,OU=IT Department,O=Your
Organization,ST=Some-State,C=AU':
  Unable to locally verify the issuer's authority.
To connect to chained.tne30024 insecurely, use `--no-check-certificate'.


DOWNLOAD PAGE USING PROVIDED ROOT CERTIFICATE
=========================================
HTTP QUERY https://chained.tne30024
 - Extra web download parameters (--ca-certificate=/rule/marking/tne30024_root.crt)
=================================
--2024-09-05 13:48:47--  https://chained.tne30024/
Resolving chained.tne30024 (chained.tne30024)... 136.186.230.103
Connecting to chained.tne30024 (chained.tne30024)|136.186.230.103|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 6020 (5.9K) [text/html]
Saving to: '/tmp/wget_save.8wUEYQfp'

    OK .....                                          100%  152M=0s

2024-09-05 13:48:47 (152 MB/s) - '/tmp/wget_save.8wUEYQfp' saved [6020/6020]


=================================
Downloaded Page contents
=================================
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>TNE30024 &mdash; Apache Certificate Labs</title>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <link href="https://fonts.googleapis.com/css?family=Roboto+Mono" rel="stylesheet">
    <link rel="stylesheet" href="fonts/icomoon/style.css">
    <link rel="stylesheet" href="css/bootstrap.min.css">
    <link rel="stylesheet" href="css/magnific-popup.css">
    <link rel="stylesheet" href="css/jquery-ui.css">
    <link rel="stylesheet" href="css/owl.carousel.min.css">
    <link rel="stylesheet" href="css/owl.theme.default.min.css">
    <link rel="stylesheet" href="css/bootstrap-datepicker.css">
    <link rel="stylesheet" href="fonts/flaticon/font/flaticon.css">
    <link rel="stylesheet" href="css/aos.css">

    <link rel="stylesheet" href="css/style.css">
  </head>
  <body>

  <div class="site-wrap">

    <div class="site-mobile-menu">
      <div class="site-mobile-menu-header">
        <div class="site-mobile-menu-close mt-3">
          <span class="icon-close2 js-menu-toggle"></span>
        </div>
      </div>
      <div class="site-mobile-menu-body"></div>
    </div>

    <header class="site-navbar py-3" role="banner">
      <div class="container-fluid">
        <div class="row align-items-center">
          <div class="col-11 col-xl-2">
            <h1 class="mb-0"><a href="index.html" class="text-white h2 mb-0">TNE30024.<span
```

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class="text-primary">Labs</span> </a></h1>
          </div>
          <div class="col-12 col-md-10 d-none d-xl-block">
            <nav class="site-navigation position-relative text-right" role="navigation">
              <ul class="site-menu js-clone-nav mx-auto d-none d-lg-block">
                <li class="active"><a href="index.html">Lab 3</a></li>
                <li><a href="https://rule201.tne30024">Main Lab Page</a></li>
              </ul>
            </nav>
          </div>
          <div class="d-inline-block d-xl-none ml-md-0 mr-auto py-3" style="position: relative; top: 3px;"><a href="#"
class="site-menu-toggle js-menu-toggle text-white"><span class="icon-menu h3"></span></a></div>
        </div>
      </div>
    </header>

    <div class="site-section site-hero inner">
      <div class="container">
        <div class="row align-items-center">
          <div class="col-md-10">
            <span class="d-block mb-3 caption" data-aos="fade-up">Chained Certificate</span>
            <h1 class="d-block mb-4" data-aos="fade-up" data-aos-delay="100">Lab 3</h1>
          </div>
        </div>
      </div>
    </div>

    <div class="site-section">
      <div class="container">


        <div class="row align-items-center speaker">
          <div class="col-lg-6 mb-5 mb-lg-0" data-aos="fade" data-aos-delay="100">
            <img src="images/cyber.jpg" alt="Image" class="img-fluid">
          </div>
          <div class="col-lg-6 ml-auto">
            <h2 class="text-white mb-4 name" data-aos="fade-right" data-aos-delay="200">Secure Browsing</h2>
            <div class="bio pl-lg-5">
              <span class="text-uppercase text-primary d-block mb-3" data-aos="fade-right"
data-aos-delay="300">Trusted Certificate</span>
              <p class="mb-4" data-aos="fade-right" data-aos-delay="400">If working correctly, this page should only
be visible via https. The padlock symbol should be green IF you installed the certificate available from the main page
(<a href="http://rule201.tne30024">http://rule201.tne30024</a>) as a trusted certificate. The main difference with Lab
2 is that this lab should have a certificate signed by a certificate signed by the trusted certificate</p>
            </div>
          </div>
        </div>

      </div>
    </div>

    <footer class="site-footer">
      <div class="container">
        <div class="row mb-5">
          <div class="col-md-4">
            <h2 class="footer-heading text-uppercase mb-4">About Site</h2>
            <p>Nothing special to see here - this page forms the root for the secure web server labs</p>
          </div>
          <div class="col-md-3 ml-auto">
            <h2 class="footer-heading text-uppercase mb-4">Secured Sites Links</h2>
            <ul class="list-unstyled">
              <li><a href="https://rule201.tne30024">Main lab Page</a></li>
            </ul>
          </div>
          <div class="col-md-4">
            <h2 class="footer-heading text-uppercase mb-4">Thanks</h2>
            <p>My thanks to the free <strong>workshop</strong> template downloaded from <a
href="https://colorlib.com/wp/template/workshop/">Colorlib</a></p>
          </div>
        </div>
        <div class="row">

          <div class="col-md-12 text-center">
            <div class="border-top pt-5">
              <p>
```

```
            <!-- Link back to Colorlib can't be removed. Template is licensed under CC BY 3.0. -->
            Copyright &copy; <script>document.write(new Date().getFullYear());</script> All rights reserved | This
template is made with <i class="icon-heart text-primary" aria-hidden="true"></i> by <a href="https://colorlib.com"
target="_blank" >Colorlib</a>
            <!-- Link back to Colorlib can't be removed. Template is licensed under CC BY 3.0. -->
            </p>
          </div>
        </div>
      </div>
    </footer>

  </div>

  <script src="js/jquery-3.3.1.min.js"></script>
  <script src="js/jquery-migrate-3.0.1.min.js"></script>
  <script src="js/jquery-ui.js"></script>
  <script src="js/popper.min.js"></script>
  <script src="js/bootstrap.min.js"></script>
  <script src="js/owl.carousel.min.js"></script>
  <script src="js/jquery.stellar.min.js"></script>
  <script src="js/jquery.countdown.min.js"></script>
  <script src="js/jquery.magnific-popup.min.js"></script>
  <script src="js/bootstrap-datepicker.min.js"></script>
  <script src="js/aos.js"></script>

  <script src="js/main.js"></script>

  </body>
</html>
===================================

Checking Downloaded page contents

Downloaded page:       PASS
Page contents correct: PASS


REMOVING DNS SERVER 136.186.230.103 FROM SYSTEM RESOLV.CONF
==================================================

*****************************************************************************
LAB RESULT: PASSED
```