Scan Report

July 11, 2024

Summary

This document reports on the results of an automatic security scan. All dates are displayed using the timezone "Coordinated Universal Time", which is abbreviated "UTC". The task was "Unnamed". The scan started at Thu Jul 11 08:08:33 2024 UTC and ended at Thu Jul 11 08:41:14 2024 UTC. The report first summarises the results found. Then, for each host, the report describes every issue found. Please consider the advice given in each description, in order to rectify the issue.

Contents

1 Result Overview

Host	High	Medium	Low	Log	False Positive
192.168.1.13	1	2	2	0	0
192.168.1.11	0	1	2	0	0
192.168.1.12	0	0	2	0	0
Total: 3	1	3	6	0	0

Vendor security updates are not trusted.
Overrides are off. Even when a result has an override, this report uses the actual threat of the result.
Information on overrides is included in the report.
Notes are included in the report.
This report might not show details of all issues that were found.
Issues with the threat level “Log” are not shown.
Issues with the threat level “Debug” are not shown.
Issues with the threat level “False Positive” are not shown.
Only results with a minimum QoD of 70 are shown.

This report contains all 10 results selected by the filtering described above. Before filtering there were 82 results.

2 Results per Host

2.1 192.168.1.13

Host scan start	Thu Jul 11 08:09:38 2024 UTC
Host scan end	Thu Jul 11 08:39:36 2024 UTC

Service (Port)	Threat Level
8009/tcp	High
9090/tcp	Medium
general/tcp	Low
general/icmp	Low

2.1.1 High 8009/tcp

High (CVSS: 9.8)

NVT: Apache Tomcat AJP RCE Vulnerability (Ghostcat)

Summary

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Apache Tomcat is prone to a remote code execution (RCE) vulnerability (dubbed 'Ghostcat') in the AJP connector.

Quality of Detection (QoD): 99%

Vulnerability Detection Result

```
It was possible to read the file "/WEB-INF/web.xml" through the AJP connector.
Result:
AB Â«\x0004 Ã\x0088 \x0002OK  \x0005
Accept-Ranges  \x0005bytes  \x0004ETag  \x0016W/"1184-1491118183000"
Last-Modified  \x001DSun, 02 Apr 2017 07:29:43 GMT  \x000CContent-Type  \x000Fap
↪plication/xml  \x000EContent-Length  \x00041184 AB\x0004Â¤\x0003\x0004Â <?xml
↪version="1.0" encoding="ISO-8859-1"?>
<!--
 Licensed to the Apache Software Foundation (ASF) under one or more
  contributor license agreements.  See the NOTICE file distributed with
  this work for additional information regarding copyright ownership.
  The ASF licenses this file to You under the Apache License, Version 2.0
  (the "License"); you may not use this file except in compliance with
  the License.  You may obtain a copy of the License at
      http://www.apache.org/licenses/LICENSE-2.0
  Unless required by applicable law or agreed to in writing, software
  distributed under the License is distributed on an "AS IS" BASIS,
  WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
  See the License for the specific language governing permissions and
  limitations under the License.
-->
<web-app xmlns="http://java.sun.com/xml/ns/javaee"
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
   xsi:schemaLocation="http://java.sun.com/xml/ns/javaee http://java.sun.com/xml
↪/ns/javaee/web-app_2_5.xsd"
   version="2.5">
  <display-name>Welcome to Tomcat</display-name>
  <description>
     Welcome to Tomcat
  </description>
</web-app>
 AB \x0002\x0005\x0001
```

Solution:

Solution type: VendorFix

Update Apache Tomcat to version 7.0.100, 8.5.51, 9.0.31 or later. For other products using Tomcat please contact the vendor for more information on fixed versions.

Affected Software/OS

Apache Tomcat versions prior 7.0.100, 8.5.51 or 9.0.31 when the AJP connector is enabled.

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Other products like JBoss or Wildfly which are using Tomcat might be affected as well.

Vulnerability Insight

Apache Tomcat server has a file containing vulnerability, which can be used by an attacker to read or include any files in all webapp directories on Tomcat, such as webapp configuration files or source code.

Vulnerability Detection Method

Sends a crafted AJP request and checks the response.
Details: `Apache Tomcat AJP RCE Vulnerability (Ghostcat)`
OID:1.3.6.1.4.1.25623.1.0.143545
Version used: `2024-06-28T15:38:46Z`

References

```
cve: CVE-2020-1938
cisa: Known Exploited Vulnerability (KEV) catalog
url: https://www.cisa.gov/known-exploited-vulnerabilities-catalog
url: https://lists.apache.org/thread.html/r7c6f492fbd39af34a68681dbbba0468490ff1
↪a97a1bd79c6a53610ef%40%3Cannounce.tomcat.apache.org%3E
url: https://www.chaitin.cn/en/ghostcat
url: https://www.cnvd.org.cn/flaw/show/CNVD-2020-10487
url: https://github.com/YDHCUI/CNVD-2020-10487-Tomcat-Ajp-lfi
url: https://securityboulevard.com/2020/02/patch-your-tomcat-and-jboss-instances
↪-to-protect-from-ghostcat-vulnerability-cve-2020-1938-and/
url: https://tomcat.apache.org/tomcat-7.0-doc/changelog.html
url: https://tomcat.apache.org/tomcat-8.5-doc/changelog.html
url: https://tomcat.apache.org/tomcat-9.0-doc/changelog.html
cert-bund: WID-SEC-2024-0528
cert-bund: WID-SEC-2023-2480
cert-bund: CB-K20/0711
cert-bund: CB-K20/0705
cert-bund: CB-K20/0693
cert-bund: CB-K20/0555
cert-bund: CB-K20/0543
cert-bund: CB-K20/0154
dfn-cert: DFN-CERT-2021-1736
dfn-cert: DFN-CERT-2020-1508
dfn-cert: DFN-CERT-2020-1413
dfn-cert: DFN-CERT-2020-1276
dfn-cert: DFN-CERT-2020-1134
dfn-cert: DFN-CERT-2020-0850
dfn-cert: DFN-CERT-2020-0835
dfn-cert: DFN-CERT-2020-0821
dfn-cert: DFN-CERT-2020-0569
dfn-cert: DFN-CERT-2020-0557
dfn-cert: DFN-CERT-2020-0501
dfn-cert: DFN-CERT-2020-0381
```

[return to 192.168.1.13]

2.1.2 Medium 9090/tcp

Medium (CVSS: 6.8)

NVT: Apache Tomcat servlet/JSP container default files

Product detection result

```
cpe:/a:apache:tomcat:6.0.53
Detected by Apache Tomcat Detection Consolidation (OID: 1.3.6.1.4.1.25623.1.0.10
↪7652)
```

Summary

The Apache Tomcat servlet/JSP container has default files installed.

Quality of Detection (QoD): 99%

Vulnerability Detection Result

```
The following default files were found :
http://192.168.1.13:9090/examples/servlets/index.html
http://192.168.1.13:9090/examples/jsp/snp/snoop.jsp
http://192.168.1.13:9090/examples/jsp/index.html
```

Impact

These files should be removed as they may help an attacker to guess the exact version of the Apache Tomcat which is running on this host and may provide other useful information.

Solution:

Solution type: Mitigation

Remove default files, example JSPs and Servlets from the Tomcat Servlet/JSP container.

Vulnerability Insight

Default files, such as documentation, default Servlets and JSPs were found on the Apache Tomcat servlet/JSP container.

Vulnerability Detection Method

Details: `Apache Tomcat servlet/JSP container default files`
OID:1.3.6.1.4.1.25623.1.0.12085
Version used: `2023-08-01T13:29:10Z`

Product Detection Result

Product: `cpe:/a:apache:tomcat:6.0.53`
Method: `Apache Tomcat Detection Consolidation`
OID: 1.3.6.1.4.1.25623.1.0.107652)

Medium (CVSS: 4.8)

NVT: Cleartext Transmission of Sensitive Information via HTTP

Summary
The host / application transmits sensitive information (username, passwords) in cleartext via HTTP.

Quality of Detection (QoD): 80%

Vulnerability Detection Result
```
The following URLs requires Basic Authentication (URL:realm name):
http://192.168.1.13:9090/host-manager/html:"Tomcat Host Manager Application"
http://192.168.1.13:9090/manager/html:"Tomcat Manager Application"
http://192.168.1.13:9090/manager/status:"Tomcat Manager Application"
```

Impact
An attacker could use this situation to compromise or eavesdrop on the HTTP communication between the client and the server using a man-in-the-middle attack to get access to sensitive data like usernames or passwords.

Solution:
Solution type: Workaround
Enforce the transmission of sensitive data via an encrypted SSL/TLS connection. Additionally make sure the host / application is redirecting all users to the secured SSL/TLS connection before allowing to input sensitive data into the mentioned functions.

Affected Software/OS
Hosts / applications which doesn't enforce the transmission of sensitive data via an encrypted SSL/TLS connection.

Vulnerability Detection Method
Evaluate previous collected information and check if the host / application is not enforcing the transmission of sensitive data via an encrypted SSL/TLS connection.
The script is currently checking the following:
- HTTP Basic Authentication (Basic Auth)
- HTTP Forms (e.g. Login) with input field of type 'password'

Details: `Cleartext Transmission of Sensitive Information via HTTP`
OID:1.3.6.1.4.1.25623.1.0.108440
Version used: `2023-09-07T05:05:21Z`

References
```
url: https://www.owasp.org/index.php/Top_10_2013-A2-Broken_Authentication_and_Se
↪ssion_Management
url: https://www.owasp.org/index.php/Top_10_2013-A6-Sensitive_Data_Exposure
url: https://cwe.mitre.org/data/definitions/319.html
```

[return to 192.168.1.13]

2.1.3 Low general/tcp

Low (CVSS: 2.6)

NVT: TCP Timestamps Information Disclosure

Summary
The remote host implements TCP timestamps and therefore allows to compute the uptime.

Quality of Detection (QoD): 80%

Vulnerability Detection Result

```
It was detected that the host implements RFC1323/RFC7323.
The following timestamps were retrieved with a delay of 1 seconds in-between:
Packet 1: 4138959476
Packet 2: 4138960582
```

Impact
A side effect of this feature is that the uptime of the remote host can sometimes be computed.

Solution:
Solution type: Mitigation
To disable TCP timestamps on linux add the line 'net.ipv4.tcp_timestamps = 0' to /etc/sysctl.conf. Execute 'sysctl -p' to apply the settings at runtime.
To disable TCP timestamps on Windows execute 'netsh int tcp set global timestamps=disabled'
Starting with Windows Server 2008 and Vista, the timestamp can not be completely disabled.
The default behavior of the TCP/IP stack on this Systems is to not use the Timestamp options when initiating TCP connections, but use them if the TCP peer that is initiating communication includes them in their synchronize (SYN) segment.
See the references for more information.

Affected Software/OS
TCP implementations that implement RFC1323/RFC7323.

Vulnerability Insight
The remote host implements TCP timestamps, as defined by RFC1323/RFC7323.

Vulnerability Detection Method
Special IP packets are forged and sent with a little delay in between to the target IP. The responses are searched for a timestamps. If found, the timestamps are reported.
Details: `TCP Timestamps Information Disclosure`
OID:1.3.6.1.4.1.25623.1.0.80091
Version used: `2023-12-15T16:10:08Z`

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References

```
url: https://datatracker.ietf.org/doc/html/rfc1323
url: https://datatracker.ietf.org/doc/html/rfc7323
url: https://web.archive.org/web/20151213072445/http://www.microsoft.com/en-us/d
↪ownload/details.aspx?id=9152
url: https://www.fortiguard.com/psirt/FG-IR-16-090
```

[return to 192.168.1.13]

2.1.4 Low general/icmp

Low (CVSS: 2.1)

NVT: ICMP Timestamp Reply Information Disclosure

Summary

The remote host responded to an ICMP timestamp request.

Quality of Detection (QoD): 80%

Vulnerability Detection Result

```
The following response / ICMP packet has been received:
- ICMP Type: 14
- ICMP Code: 0
```

Impact

This information could theoretically be used to exploit weak time-based random number generators in other services.

Solution:

Solution type: Mitigation

Various mitigations are possible:

- Disable the support for ICMP timestamp on the remote host completely

- Protect the remote host by a firewall, and block ICMP packets passing through the firewall in either direction (either completely or only for untrusted networks)

Vulnerability Insight

The Timestamp Reply is an ICMP message which replies to a Timestamp message. It consists of the originating timestamp sent by the sender of the Timestamp as well as a receive timestamp and a transmit timestamp.

Vulnerability Detection Method

Sends an ICMP Timestamp (Type 13) request and checks if a Timestamp Reply (Type 14) is received.

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Details: `ICMP Timestamp Reply Information Disclosure`
OID:1.3.6.1.4.1.25623.1.0.103190
Version used: `2023-05-11T09:09:33Z`

References

```
cve: CVE-1999-0524
url: https://datatracker.ietf.org/doc/html/rfc792
url: https://datatracker.ietf.org/doc/html/rfc2780
cert-bund: CB-K15/1514
cert-bund: CB-K14/0632
dfn-cert: DFN-CERT-2014-0658
```

[return to 192.168.1.13]

2.2 192.168.1.11

Host scan start Thu Jul 11 08:09:38 2024 UTC
Host scan end Thu Jul 11 08:32:06 2024 UTC

Service (Port)	Threat Level
8080/tcp	Medium
general/tcp	Low
general/icmp	Low

2.2.1 Medium 8080/tcp

Medium (CVSS: 4.8)

NVT: Cleartext Transmission of Sensitive Information via HTTP

Summary
The host / application transmits sensitive information (username, passwords) in cleartext via HTTP.

Quality of Detection (QoD): 80%

Vulnerability Detection Result

```
The following input fields were identified (URL:input name):
http://192.168.1.11:8080/login:password
```

Impact
An attacker could use this situation to compromise or eavesdrop on the HTTP communication between the client and the server using a man-in-the-middle attack to get access to sensitive data like usernames or passwords.

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Solution:
Solution type: Workaround
Enforce the transmission of sensitive data via an encrypted SSL/TLS connection. Additionally make sure the host / application is redirecting all users to the secured SSL/TLS connection before allowing to input sensitive data into the mentioned functions.

Affected Software/OS
Hosts / applications which doesn't enforce the transmission of sensitive data via an encrypted SSL/TLS connection.

Vulnerability Detection Method
Evaluate previous collected information and check if the host / application is not enforcing the transmission of sensitive data via an encrypted SSL/TLS connection.
The script is currently checking the following:
- HTTP Basic Authentication (Basic Auth)
- HTTP Forms (e.g. Login) with input field of type 'password'
Details: `Cleartext Transmission of Sensitive Information via HTTP`
OID:1.3.6.1.4.1.25623.1.0.108440
Version used: `2023-09-07T05:05:21Z`

References

```
url: https://www.owasp.org/index.php/Top_10_2013-A2-Broken_Authentication_and_Se
↪ssion_Management
url: https://www.owasp.org/index.php/Top_10_2013-A6-Sensitive_Data_Exposure
url: https://cwe.mitre.org/data/definitions/319.html
```

[return to 192.168.1.11]

2.2.2 Low general/tcp

Low (CVSS: 2.6)

NVT: TCP Timestamps Information Disclosure

Summary
The remote host implements TCP timestamps and therefore allows to compute the uptime.

Quality of Detection (QoD): 80%

Vulnerability Detection Result

```
It was detected that the host implements RFC1323/RFC7323.
The following timestamps were retrieved with a delay of 1 seconds in-between:
Packet 1: 2439236701
```

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```
Packet 2: 2439237750
```

Impact

A side effect of this feature is that the uptime of the remote host can sometimes be computed.

Solution:

Solution type: Mitigation

To disable TCP timestamps on linux add the line 'net.ipv4.tcp_timestamps = 0' to /etc/sysctl.conf. Execute 'sysctl -p' to apply the settings at runtime.

To disable TCP timestamps on Windows execute 'netsh int tcp set global timestamps=disabled'

Starting with Windows Server 2008 and Vista, the timestamp can not be completely disabled.

The default behavior of the TCP/IP stack on this Systems is to not use the Timestamp options when initiating TCP connections, but use them if the TCP peer that is initiating communication includes them in their synchronize (SYN) segment.

See the references for more information.

Affected Software/OS

TCP implementations that implement RFC1323/RFC7323.

Vulnerability Insight

The remote host implements TCP timestamps, as defined by RFC1323/RFC7323.

Vulnerability Detection Method

Special IP packets are forged and sent with a little delay in between to the target IP. The responses are searched for a timestamps. If found, the timestamps are reported.

Details: `TCP Timestamps Information Disclosure`

OID:1.3.6.1.4.1.25623.1.0.80091

Version used: `2023-12-15T16:10:08Z`

References

```
url: https://datatracker.ietf.org/doc/html/rfc1323
url: https://datatracker.ietf.org/doc/html/rfc7323
url: https://web.archive.org/web/20151213072445/http://www.microsoft.com/en-us/d
↪ownload/details.aspx?id=9152
url: https://www.fortiguard.com/psirt/FG-IR-16-090
```

[return to 192.168.1.11]

2.2.3 Low general/icmp

Low (CVSS: 2.1)

NVT: ICMP Timestamp Reply Information Disclosure

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. . . continued from previous page . . .

Summary
The remote host responded to an ICMP timestamp request.

Quality of Detection (QoD): 80%

Vulnerability Detection Result

```
The following response / ICMP packet has been received:
- ICMP Type: 14
- ICMP Code: 0
```

Impact
This information could theoretically be used to exploit weak time-based random number generators in other services.

Solution:
Solution type: Mitigation
Various mitigations are possible:
- Disable the support for ICMP timestamp on the remote host completely
- Protect the remote host by a firewall, and block ICMP packets passing through the firewall in either direction (either completely or only for untrusted networks)

Vulnerability Insight
The Timestamp Reply is an ICMP message which replies to a Timestamp message. It consists of the originating timestamp sent by the sender of the Timestamp as well as a receive timestamp and a transmit timestamp.

Vulnerability Detection Method
Sends an ICMP Timestamp (Type 13) request and checks if a Timestamp Reply (Type 14) is received.
Details: `ICMP Timestamp Reply Information Disclosure`
OID:1.3.6.1.4.1.25623.1.0.103190
Version used: `2023-05-11T09:09:33Z`

References

```
cve: CVE-1999-0524
url: https://datatracker.ietf.org/doc/html/rfc792
url: https://datatracker.ietf.org/doc/html/rfc2780
cert-bund: CB-K15/1514
cert-bund: CB-K14/0632
dfn-cert: DFN-CERT-2014-0658
```

[return to 192.168.1.11]

2.3 192.168.1.12

Host scan start	Thu Jul 11 08:09:38 2024 UTC
Host scan end	Thu Jul 11 08:41:09 2024 UTC

Service (Port)	Threat Level
22/tcp	Low
general/tcp	Low

2.3.1 Low 22/tcp

Low (CVSS: 2.6)

NVT: Weak MAC Algorithm(s) Supported (SSH)

Product detection result

```
cpe:/a:ietf:secure_shell_protocol
Detected by SSH Protocol Algorithms Supported (OID: 1.3.6.1.4.1.25623.1.0.105565
↪)
```

Summary

The remote SSH server is configured to allow / support weak MAC algorithm(s).

Quality of Detection (QoD): 80%

Vulnerability Detection Result

```
The remote SSH server supports the following weak client-to-server MAC algorithm
↪(s):
umac-64-etm@openssh.com
umac-64@openssh.com
The remote SSH server supports the following weak server-to-client MAC algorithm
↪(s):
umac-64-etm@openssh.com
umac-64@openssh.com
```

Solution:

Solution type: Mitigation

Disable the reported weak MAC algorithm(s).

Vulnerability Detection Method

Checks the supported MAC algorithms (client-to-server and server-to-client) of the remote SSH server.

Currently weak MAC algorithms are defined as the following:

- MD5 based algorithms
- 96-bit based algorithms
- 64-bit based algorithms
- 'none' algorithm

Details: `Weak MAC Algorithm(s) Supported (SSH)`

OID:1.3.6.1.4.1.25623.1.0.105610

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Version used: `2024-06-14T05:05:48Z`

Product Detection Result
Product: `cpe:/a:ietf:secure_shell_protocol`
Method: `SSH Protocol Algorithms Supported`
OID: 1.3.6.1.4.1.25623.1.0.105565)

References
`url: https://www.rfc-editor.org/rfc/rfc6668`
`url: https://www.rfc-editor.org/rfc/rfc4253#section-6.4`

[return to 192.168.1.12]

2.3.2 Low general/tcp

Low (CVSS: 2.6)

NVT: TCP Timestamps Information Disclosure

Summary
The remote host implements TCP timestamps and therefore allows to compute the uptime.

Quality of Detection (QoD): 80%

Vulnerability Detection Result

```
It was detected that the host implements RFC1323/RFC7323.
The following timestamps were retrieved with a delay of 1 seconds in-between:
Packet 1: 4150319893
Packet 2: 4150320963
```

Impact
A side effect of this feature is that the uptime of the remote host can sometimes be computed.

Solution:
Solution type: Mitigation
To disable TCP timestamps on linux add the line 'net.ipv4.tcp_timestamps = 0' to /etc/sysctl.conf. Execute 'sysctl -p' to apply the settings at runtime.
To disable TCP timestamps on Windows execute 'netsh int tcp set global timestamps=disabled'
Starting with Windows Server 2008 and Vista, the timestamp can not be completely disabled.
The default behavior of the TCP/IP stack on this Systems is to not use the Timestamp options when initiating TCP connections, but use them if the TCP peer that is initiating communication includes them in their synchronize (SYN) segment.
See the references for more information.

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Affected Software/OS

TCP implementations that implement RFC1323/RFC7323.

Vulnerability Insight

The remote host implements TCP timestamps, as defined by RFC1323/RFC7323.

Vulnerability Detection Method

Special IP packets are forged and sent with a little delay in between to the target IP. The responses are searched for a timestamps. If found, the timestamps are reported.

Details: `TCP Timestamps Information Disclosure`

OID:1.3.6.1.4.1.25623.1.0.80091

Version used: `2023-12-15T16:10:08Z`

References

```
url: https://datatracker.ietf.org/doc/html/rfc1323
url: https://datatracker.ietf.org/doc/html/rfc7323
url: https://web.archive.org/web/20151213072445/http://www.microsoft.com/en-us/d
↪ownload/details.aspx?id=9152
url: https://www.fortiguard.com/psirt/FG-IR-16-090
```

[return to 192.168.1.12]

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