```
 1  Step 1 – Verify JAVA
 2      -JAVA is the first requirement of Tomcat installation.
 3      -Use the following command to check if you have java installed already on your system.
 4
 5        $ java -version
 6
 7        openjdk version "11.0.6" 2020-01-14
 8        OpenJDK Runtime Environment (build 11.0.6+10-post-Ubuntu-1ubuntu118.04.1)
 9        OpenJDK 64-Bit Server VM (build 11.0.6+10-post-Ubuntu-1ubuntu118.04.1, mixed mode,
        sharing)
10
11      -Tomcat 9 is designed to run on Java SE 8 and later.
12      -So make sure you have installed correct version on your system.
13      -If you don't have Java installed on your system or installed lower version, use one of the
        following links to install Java first.
14
15
16  Step 2 – Downloading Tomcat Archive
17      -Download Apache Tomcat 9 archive file using following commands or you can visit Tomcat 9
        official download page for download most recent available version.
18      -After downloading extract archive file in /opt directory.
19      -You may change this location as per your setup.
20
21      $ wget
        http://mirror.apache-kr.org/tomcat/tomcat-9/v9.0.31/bin/apache-tomcat-9.0.31.tar.gz
22      $ tar xvfz apache-tomcat-9.0.31.tar.gz
23      $ sudo mv apache-tomcat-9.0.31 /etc/tomcat9
24
25
26  Step 3 – Configure Environment Variables
27      -Before starting Tomcat, configure CATALINA_HOME environment variable in your system
        using following commands.
28
29      $ sudo vi /etc/profile
30
31      export JAVA_HOME=/usr/lib/jvm/java-11-openjdk-amd64
32      export CATALINA_HOME=/etc/tomcat9
33      #export PATH=$PATH:$JAVA_HOME/bin
34
35      $ source /etc/profile
36
37
38  Step 4 – Start Tomcat Server
39      -Tomcat is very easy to use, There is no need to compile its source.
40      -You simply extract the archive and start the tomcat server.
41      -Tomcat by default start on port 8080, So make sure no other application using the same
        port.
42
43      $ cd /etc/tomcat9/bin
44      $ sudo ./startup.sh
45
46
47  Step 5 – Access Tomcat in Browser
48      -Tomcat server works on port 8080 default.
49      -Access tomcat on a web browser by connecting your server on port 8080.
50
51      http://192.168.56.3:8080
52
```

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53
54  Step 6 - Tomcat Manager Change
55    $ sudo vi /etc/tomcat9/conf/tomcat-users.xml
56    <user username="admin" password="javatomcat" roles="admin-gui,manager-gui" />
57
58    $ sudo vi /etc/tomcat9/webapps/manager/META-INF/context.xml
59
60    <Context antiResourceLocking="false" privileged="true" >
61      <!--
62        <Valve className="org.apache.catalina.valves.RemoteAddrValve"
63          allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" />
64      -->
65      <Manager
         sessionAttributeValueClassNameFilter="java\.lang\.(?:Boolean|Integer|Long|Number|Strin
         g)|org\.apache\.catalina\.filters\.CsrfPreventionFilter\$LruCache(?:\$1)?|java\.util\.(?:Link
         ed)?HashMap"/>
66    </Context>
67
68    <Valve> 부분을 주석 처리한다.
69
70    -Tomcat9 Restart
71
72
73  Step 7 - Tomcat Home Directory Change
74    1) WEB-INF directory copy
75      $ sudo cp -r $CATALINA_HOME/webapps/ROOT/WEB-INF /WebHome/WEB-INF
76
77    2)In Tomcat Manager, / Undeploy button click.
78
79    3) web.xml file 수정하기
80      $ sudo vi /WebHome/WEB-INF/web.xml
81
82        <?xml version="1.0" encoding="UTF-8"?>
83        <web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"
84          xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
85          xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
86                    http://xmlns.jcp.org/xml/ns/javaee/web-app_4_0.xsd"
87          version="4.0"
88          metadata-complete="true">
89
90        <display-name>Welcome to My Web Application Home.</display-name>
91
92        </web-app>
93
94    4)소유권 수정하기
95      $ sudo chown ftpuser:iusers /WebHome -R
96
97
98    5)homecontext.xml 파일 생성하기
99      $ sudo vi $CATALINA_HOME/webapps/homecontext.xml
100
101       <Context path="" docBase="/WebHome" debug="0" reloadable="true"
         crossContext="true" privileged="true" />
102
103   6)/ context 등록하기
104     In Tomcat Manager, at Deploy
105     -Context Path : /
106     -XML Configuration file path : /etc/tomcat9/webapps/homecontext.xml
```

107   -Click Deploy button