Setup Instructions

On Ubuntu:

Deploying the application using war file:

What is a war file?
In software engineering, a **WAR file** (or Web application ARchive) is a JAR **file** used to distribute a collection of JavaServer Pages, Java Servlets, Java classes, XML **files**, tag libraries, static web pages (HTML and related **files**) and other resources that together constitute a web application.

If you do not want to modify the code and just want to deploy the Clickr application using apache tomcat service then first install apache tomcat on your system.
Here is a good link:
https://www.digitalocean.com/community/tutorials/how-to-install-apache-tomcat-7-on-ubuntu-14-04-via-apt-get

The ClickrServer war file can be downloaded from the following link:
https://github.com/bhargavchippada/ClickrServer/releases
(Download the latest version or an older version)
The Clickr admin page username is clickrdemo and password is clickr@iitb.

The essential steps are as follows (Install through apt-get. This is the simplest method):

1. Update system
   sudo apt-get update

2. Install Tomcat
   sudo apt-get install tomcat7

   Tomcat is not completely setup yet but you can access the default splash page by going to your domain or IP address followed by :8080 in a web browser:
   http://your_ip_address:8080

3. Installing additional packages
   sudo apt-get install tomcat7-docs tomcat7-admin tomcat7-examples

   This is recommended for people new to tomcat

4. Install java development kit to develop java apps to run on server(optional)
   sudo apt-get install default-jdk

   In addition to JDK, the Tomcat documentation suggests also installing Apache Ant, which is used to build Java applications, and a source control system, such as git.

   sudo apt-get install ant git

5. Configure tomcat web management interface
   In order to use the manager webapp installed in Step 3, we must add a login to our Tomcat server. We will do this by editing the tomcat-users.xml file:
   sudo nano /etc/tomcat7/tomcat-users.xml

   You will want to add a user who can access the manager-gui and admin-gui (the management interface that we installed in Step Three). You can do so by defining a user similar to the example below. Be sure to change the password and username if you wish, the user tag should be enclosed between tomcat-users tag as follows:

   <tomcat-users>
       <user username="admin" password="admin" roles="manager-gui,admin-gui"/>
   </tomcat-users>

   Save and quit the tomcat-users.xml file. To put our changes into effect, restart the Tomcat service:

   sudo service tomcat7 restart

   Further, to start tomcat server run: sudo service tomcat7 start
   to stop tomcat server run: sudo service tomcat7 stop

6. Access the web interface
   Now that we've configured an admin user, let's access the web management interface in a web browser:

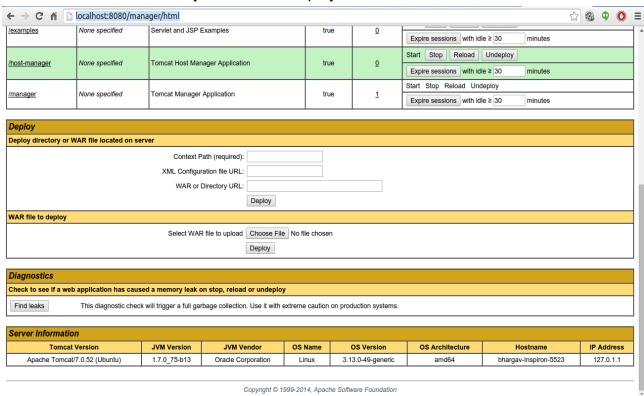   http://your_ip_address:8080

   Note: Only chrome browser is fully compatible, open the link in it. The web interface may not work/look perfectly on other browsers like firefox, etc.

7. You will see something like the following message:

It Works!

As you can see there are some links, we are concerned with manager webapp link, click on it and you will be taken to http://your_ip_address:8080/manager/html

There is a section which says 'war file to deploy'

	localhost:8080/manager/html						
/examples	None specified	Servlet and JSP Examples	true	0	Expire sessions with idle ≥ 30 minutes		
/host-manager	None specified	Tomcat Host Manager Application	true	0	Start Stop Reload Undeploy		
					Expire sessions with idle ≥ 30 minutes		
/manager	None specified	Tomcat Manager Application	true	1	Start Stop Reload Undeploy		
					Expire sessions with idle ≥ 30 minutes		

Deploy

Deploy directory or WAR file located on server

Context Path (required):

XML Configuration file URL:

WAR or Directory URL:

Deploy

WAR file to deploy

Select WAR file to upload   Choose File No file chosen

Deploy

Diagnostics

Check to see if a web application has caused a memory leak on stop, reload or undeploy

Find leaks   This diagnostic check will trigger a full garbage collection. Use it with extreme caution on production systems.

Server Information

Tomcat Version	JVM Version	JVM Vendor	OS Name	OS Version	OS Architecture	Hostname	IP Address
Apache Tomcat/7.0.52 (Ubuntu)	1.7.0_75-b13	Oracle Corporation	Linux	3.13.0-49-generic	amd64	bhargav-Inspiron-5523	127.0.1.1

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You can select a war file using **Choose File** button and click on **Deploy**. Scroll up and you can see a section named 'Applications' and you should see ClickrServer listed. You can start, stop, reload and undeploy the Clickr application.

You can access the Clickr web interface by opening the following url in your web browser:
http://your_ip_address:8080/ClickrServer

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(Download the latest version or an older version)
The Clickr admin page username is clickrdemo and password is clickr@iitb.

Note: If you don't want to install using apt-get then you have to download the binary distribution from Apache Tomcat site. Refer to Apache Tomcat Documentation for instructions.

Setup for developing the application:

Following is the directory structure of the project:-

- ❖ src
    - ➢ datahandler (contains classes for storing/retrieving the data)
    - ➢ support (helper classes)
    - ➢ webconnectionjdbc (servlets for exchanging data with Clickr mobile application)
    - ➢ webinterfacehandler (servlets for exchanging data with Admin Clickr application)
- ❖ WebContent
    - ➢ bower_components (polymer dependencies)
    - ➢ bower.json file to manage polymer dependencies
    - ➢ media (images used in html)
    - ➢ elements (polymer webcomponent elements used for making the web interface)
    - ➢ WEB-INF
        - ■ web.xml (contains servlet mappings)
        - ■ lib
            - ● gson (gson library)
            - ● doc folder
                - ◆ gson doc jar
    - ➢ html pages with polymer dependencies
- ❖ examplefiles (example input files for Clickr application)

As you can see there are two external dependencies:

- [polymer](#) v0.5 (Updating this is ok but thorough testing has to be done to check that nothing is broken!
- [gson](#) v2.3.1 (You can update this jar and its doc jar too if a newer version is released in future)

The essential steps are as follows (Eclipse IDE):
1. Download eclipse [Luna](#) for Java EE developers (Easiest way).
   If you have some other eclipse release then you have to install web development tools software from inside eclipse marketplace.
2. Download the latest version of war file from the following link:
   https://github.com/bhargavchippada/ClickrServer/releases
3. Download apache [tomcat](#) tar.gz core binary distribution and extract it in your desired location. (you can also download this using eclipse in next step)
4. Open eclipse, click File->Import->Web->War file and select the downloaded war file.
   Select the Target runtime as Apache tomcat v7.0 (or v6.0 or v8.0), if there is no target runtime available then click on 'new', select apache tomcat version that you have downloaded in Step 3, click next, select the tomcat installation directory of Step 3. If you have not installed tomcat in Step 3 then click and download & install button and select your installation folder.
   Click next or finish. Now target runtime is shown. click next and then click finish.
5. Let's start the server now, Go to File->New->Server
   Select tomcat version, click next, select ClickrServer project and add it to server. Click finish.
6. To host the Clickr application, right click the ClickrServer project and select 'Run As', select 'Run on Server', select available server and click finish.
7. The application is now hosted on the server, type the following url in your browser to access the application: http://your_ip_address:8080/ClickrServer
8. You can now start developing the ClickrServer.