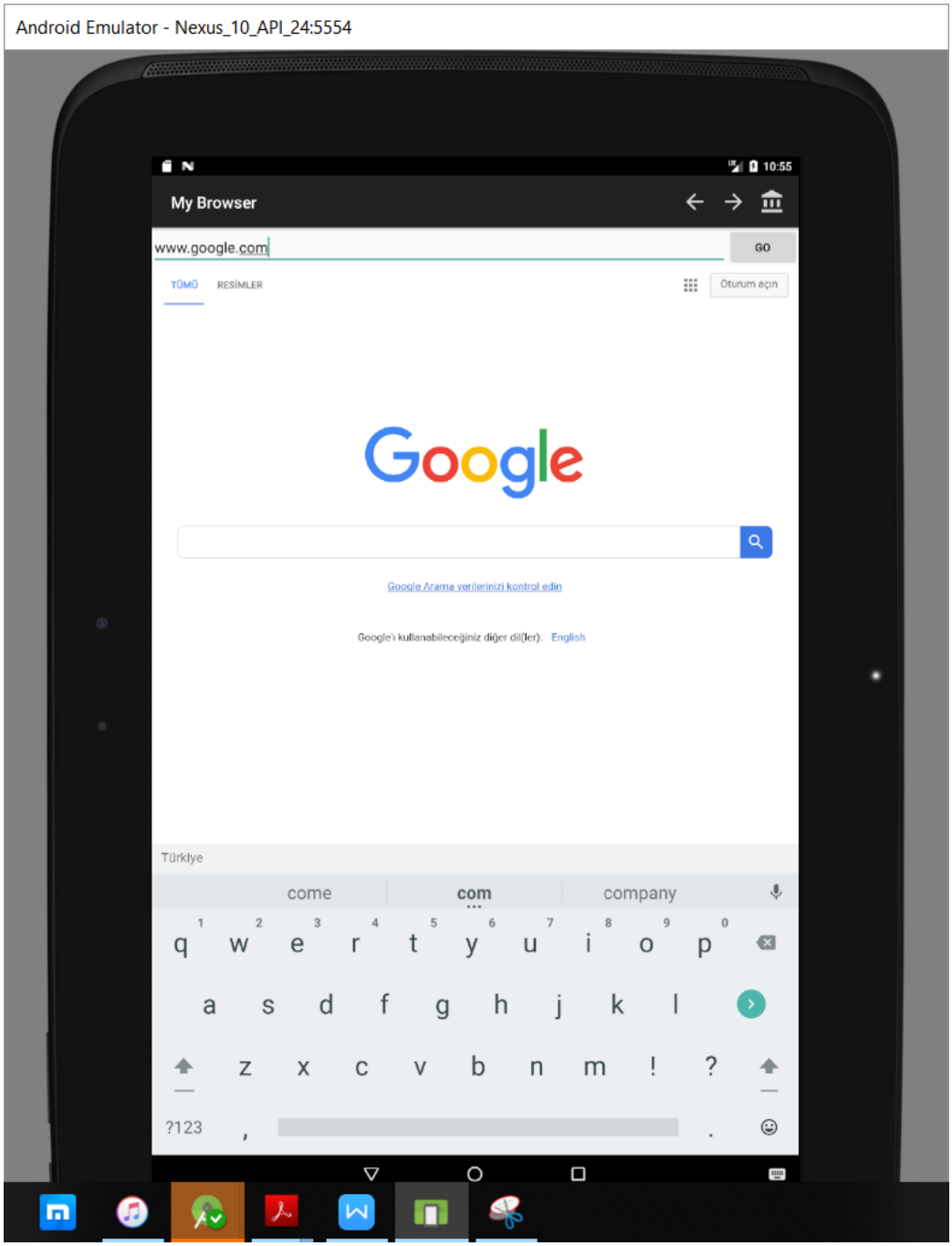
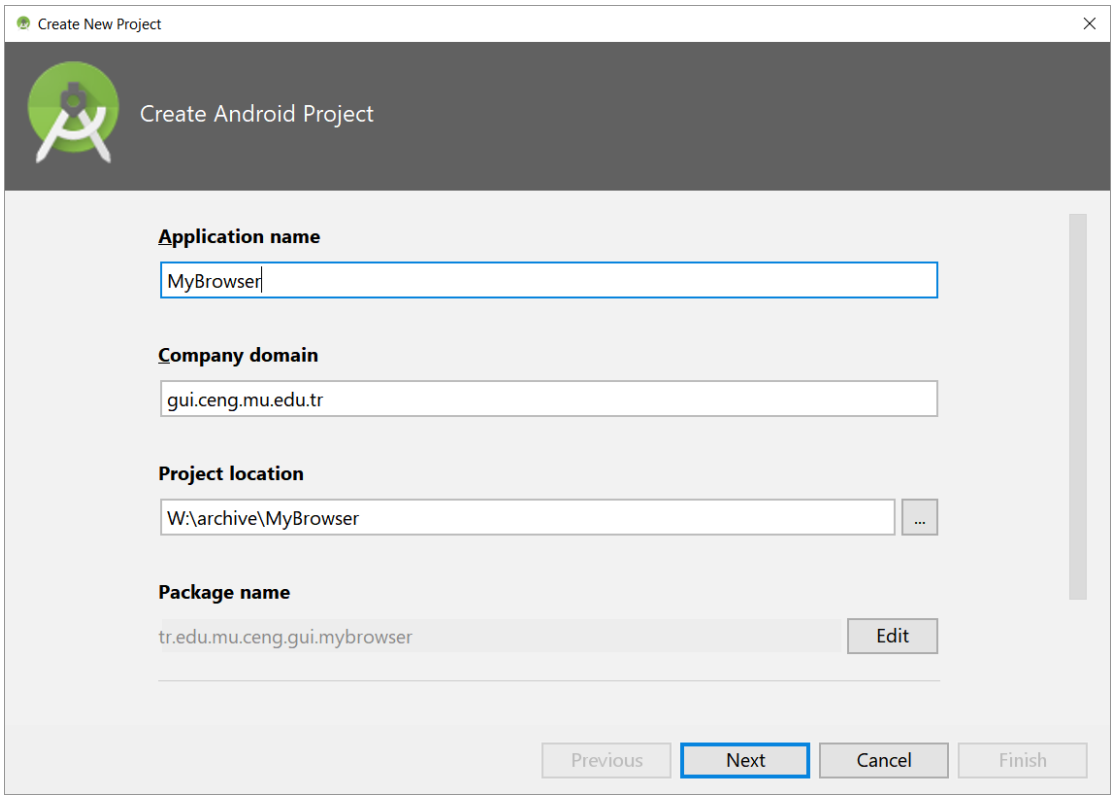
Lab 4: My Browser

In this lab we will be implementing the our own browser and register it as a web browser through intent filters.



1. Create new project in Android Studio.



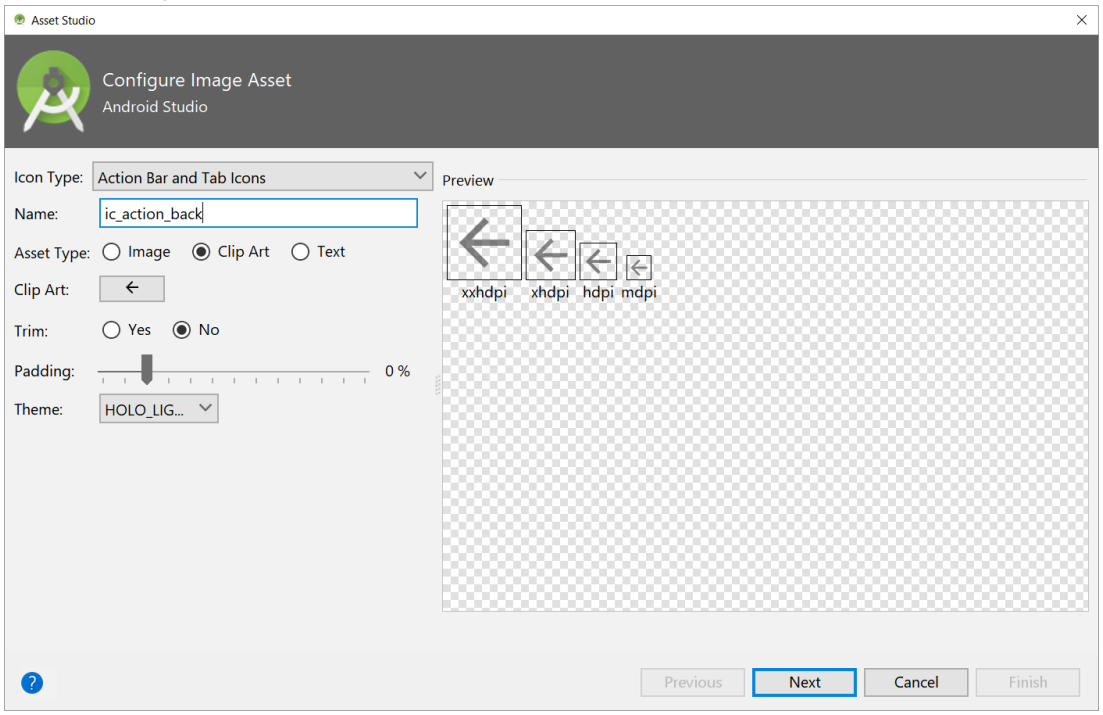
2. Select defaults for minimum SDK
3. Select Empty activity as the main activity
4. Add the following permissions to application.

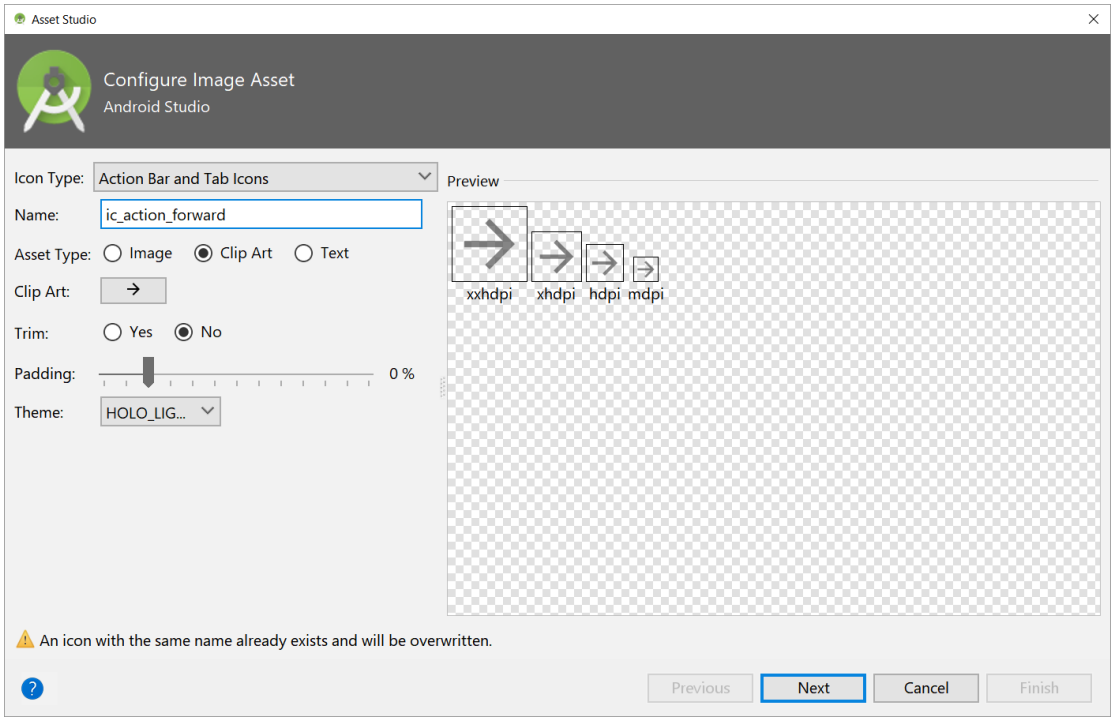
```
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE"/>
<uses-permission android:name="android.permission.INTERNET"/>
```

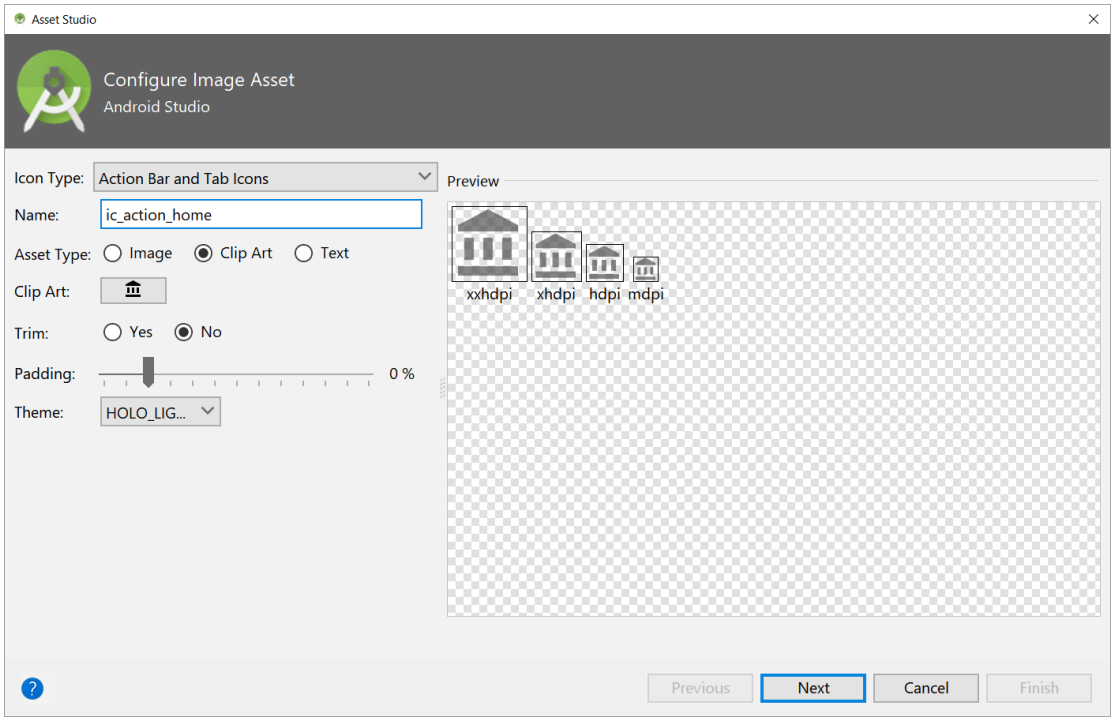
5. Also set the android:usesCleartextTraffic attribute of application to true as shown below.

```
<?xml version="1.0" encoding="utf-8"?>
<manifest ...>
    <uses-permission android:name="android.permission.INTERNET" />
    <application
        ...
        android:usesCleartextTraffic="true"
        ...>
        ...
    </application>
</manifest>
```

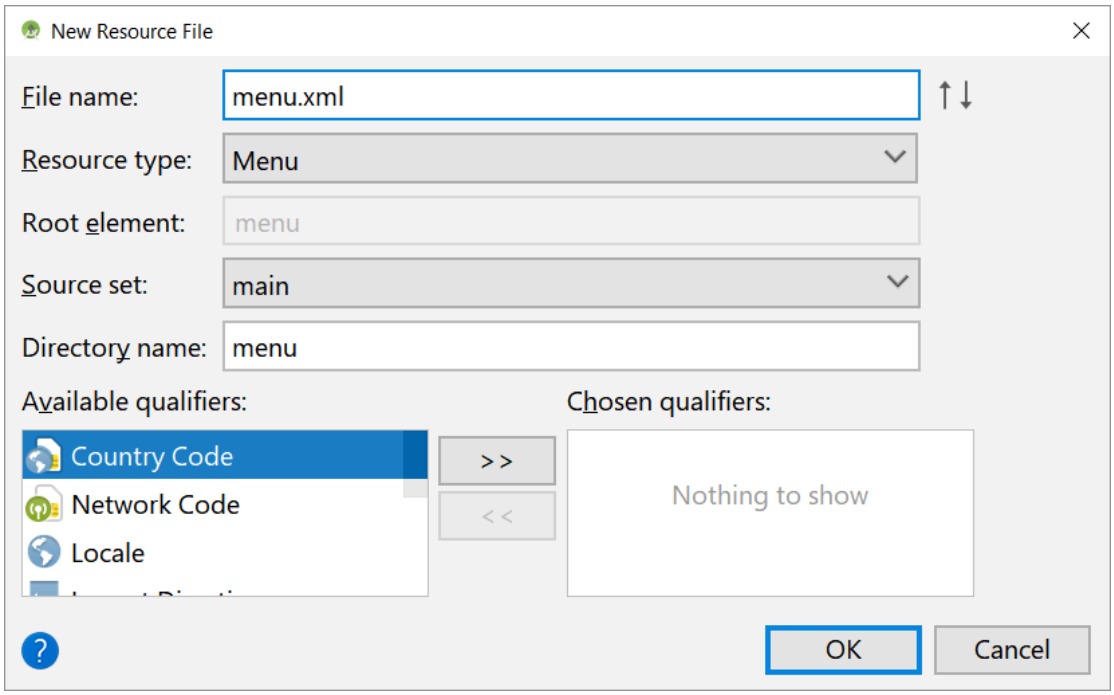
6. Add image assets for back, forward and home







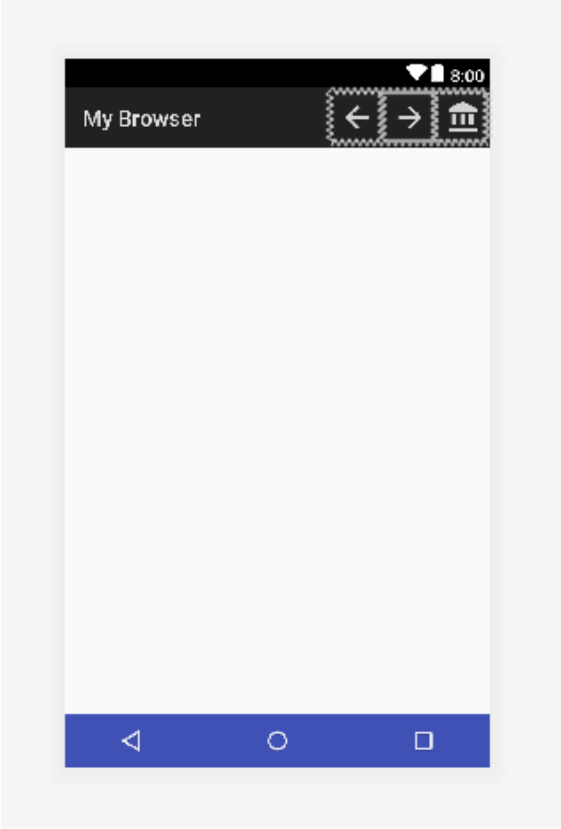
7. Create a new menu resource file



8. Modify the menu.xml as follows:

```
<menu xmlns:android="http://schemas.android.com/apk/res/android">


    <item
        android:id="@+id/item_back"
        android:enabled="false"
        android:icon="@drawable/ic_action_back"
        android:showAsAction="always"
        android:title="Back" />
    <item
        android:id="@+id/item_forward"
        android:icon="@drawable/ic_action_forward"
        android:showAsAction="always"
        android:title="Forward" />
    <item
        android:id="@+id/item_home"
        android:icon="@drawable/ic_action_home"
        android:showAsAction="always"
        android:title="Home" />
</menu>
```

Then you will have following in design view of menu.xml



9. Add the following method to the main activity to attach menu

```
@Override
public boolean onCreateOptionsMenu(Menu menu) {
    MenuInflater inflater = getMenuInflater();
    inflater.inflate(R.menu.menu, menu);
    return super.onCreateOptionsMenu(menu);

}
```

10. Open the activity_main.xml and modify it as shown below.

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/adress"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="web address"
        android:inputType="textPersonName"
        app:layout_constraintEnd_toStartOf="@+id/go"
        app:layout_constraintBottom_toBottomOf="@+id/go"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/go"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Go"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toEndf="@+id/adress"
        app:layout_constraintTop_toTopOf="parent" />

    <WebView
        android:id="@+id/webview"
        android:layout_width="0dp"
```

```
        android:layout_height="0dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/adress" />
</android.support.constraint.ConstraintLayout>
```

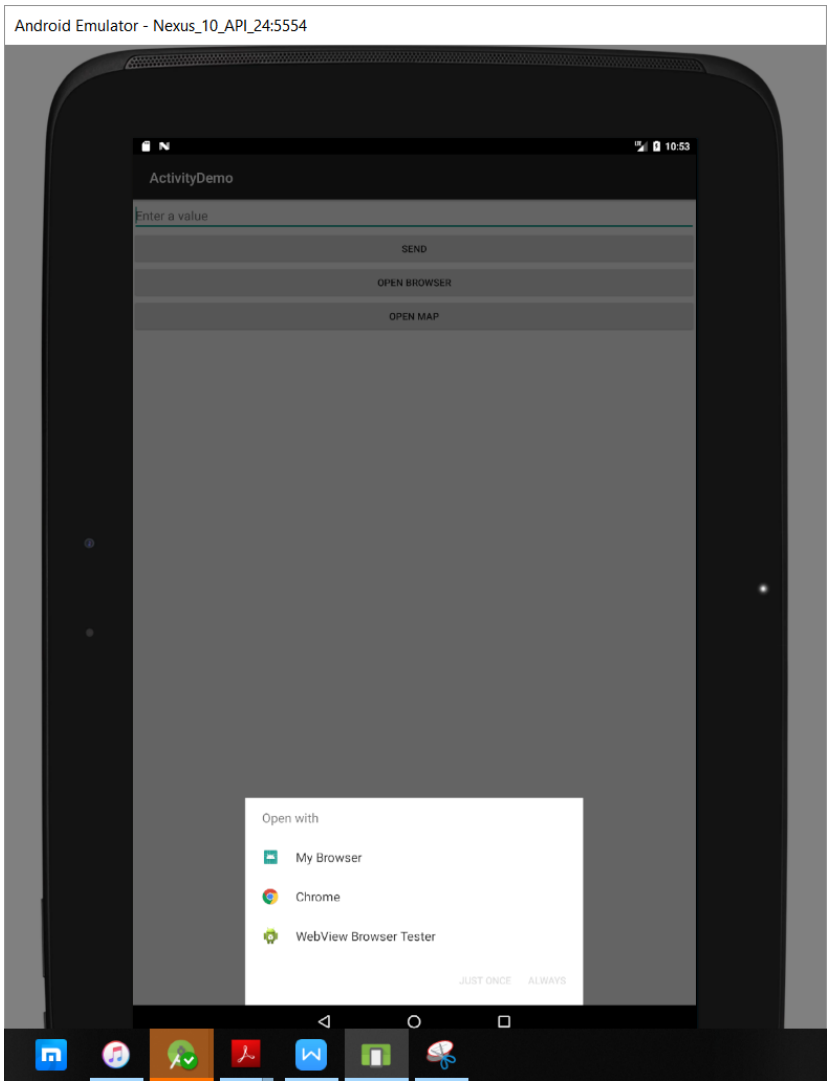
11. Add the following statements to onCreate:

```
webview.setWebViewClient(new WebViewClient());


btnGo.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        webview.loadUrl("http://"+ txtAddress.getText());


    }
});
```

12. Register your browser in manifest file:

```
<intent-filter>
    <action android:name="android.intent.action.VIEW" />
    <action android:name="android.intent.action.MAIN" />


    <!-- Include the host attribute if you want your app to respond
         only to URLs with your app's domain. -->
    <data android:scheme="http" />
    <category android:name="android.intent.category.LAUNCHER" />
    <!-- The BROWSABLE category is required to get links from web pages. -->
    <category android:name="android.intent.category.BROWSABLE" />
    <category android:name="android.intent.category.DEFAULT" />
</intent-filter>
```

13. Start an activity with implicit intent to open a URL from another application



14. Add the following statements to onCreate of MyBrowser's main activity and repeat the 13th step:

```
if (getIntent() != null && getIntent().getData()!= null){
    txtAddress.setText(getIntent().getData().toString());
    webview.loadUrl(getIntent().getData().toString());
}
```