## QuakeReport Part 3

**Shared Preferences** 

### 14 - Add settings activity

• Create Setting Activity.java

```
public class SettingsActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.settings_activity);
    }
    public static class EarthquakePreferenceFragment extends PreferenceFragment {
     }
}
```

#### modify strings.xml

<!-- Settings Menu Item [CHAR LIMIT=NONE] -->
<string name="settings\_menu\_item">Settings</string>
<!-- Settings Activity Title [CHAR LIMIT=NONE] -->
<string name="settings\_title">Earthquake Settings</string></string></string>

#### Create setting\_activity.xml

```
<?xml version="1.0" encoding="utf-8"?>
<fragment
    android:name="com.example.android.quakereport.SettingsActivity$EarthquakePreferenceFragment"
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="com.example.android.quakereport.SettingsActivity">
</fragment
```

#### Declare new activity in AndroidManifest.xml

```
<activity android:name=".EarthquakeActivity">
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
    </activity>
    <activity
        android:name=".SettingsActivity"
        android:label="@string/settings title">
        <meta-data
            android:name="android.support.PARENT ACTIVITY"
            android:value="com.example.android.quakereport.EarthquakeActivity"/>
    </activity>
</application>
```

</manifest>

### Add MENU

- Create main xml inside folder:
  - res/menu/main.xml



#### Add this to main.xml



### Import ic\_filter from the link

- <u>https://drive.google.com/drive/folders/0Byh9wn052jKYd2I1ZWRKclN</u> <u>sZEE</u>
- Download All
- Extract the file
- Copy all folder to drawable (incase of unopied, you can just copy one ic\_filter file)

# EarthquakeActivity.java (put at the end of class-after onLoaderReset())

#### @Override

public void onLoaderReset(Loader<List<Earthquake>> loader) { mAdapter.clear(); }

```
@Override
public boolean onCreateOptionsMenu(Menu menu) {
    getMenuInflater().inflate(R.menu.main, menu);
    return true;
@Override
public boolean onOptionsItemSelected(MenuItem item) {
    int id = item.getItemId();
    if (id == R.id.action settings) {
        Intent settingsIntent = new Intent( packageContext: this, SettingsActivity.class);
        startActivity(settingsIntent);
        return true;
    return super.onOptionsItemSelected(item);
```

### Run APP

		$\frown$				
)uak	ke Report	( ₩		← Earthquake	Settings	
5.0	NEAR THE Prince Edward Islands region	Apr 20, 2015 4:09 AM				
5.2	54KM SW OF Ovalle, Chile	Apr 10, 2018 5:19 PM				
5.3	85KM WSW OF Porgera, Papua New Guinea	Apr 07, 2018 12:48 PM				
5.8	11KM NNE OF Carandayti, Bolivia	Apr 02, 2018 8:40 PM				
5.1	SOUTH OF the Fiji Islands	Apr 02, 2018 12:57 PM				
5.9	151KM SSW OF Kokopo, Papua New Guinea	Mar 30, 2018 4:25 AM				
5.6	139KM E OF Kimbe, Papua New Guinea	Mar 26, 2018 4:51 PM				
5.4	214KM NW OF Saumlaki, Indonesia	Mar 26, 2018 3:14 AM				
5.0	NEAR THE Southeast Indian Ridge	Mar 25, 2018 2:58 AM				
	150KM E OF	Mar 24, 2018				
	•			•	•	

### 15 - Add min magnitude preference

• In strings.xml

<!-- Strings For Minimum Magnitude Preference [CHAR LIMIT=30] -->
<string name="settings\_min\_magnitude\_label">Minimum Magnitude</string>
<string name="settings\_min\_magnitude\_key" translatable="false">min\_magnitude</string>
<string name="settings\_min\_magnitude\_default" translatable="false">6</string>

### Create res/xml/settings\_main.xml

Captures ALS	Earthquake     EarthquakeActivity     EarthquakeAdapter     New     Cut	xm1 & Kotlin File/Class and Android resource too Sample Data dire File Ctrl+X	e file e directory ectory trl+Alt+Shift+Insert	
	Copy Path Copy as Plain Text Copy Reference Ct	Ctrl+C Ctrl+Shift+C I+Alt+Shift+C Ctrl+V	<ul> <li>Directory</li> <li>C++ Class</li> <li>C/C++ Source File</li> <li>C/C++ Header File</li> </ul>	
► Gra	Find Usages Find in Path Repl <u>a</u> ce in Path Analyze	Alt+F7 Ctrl+Shift+F Ctrl+Shift+R Ctrl+Shift+R K	es	
d Variants	<u>R</u> efactor Add to F <u>a</u> vorites Show Image Thumbnails	AIDL     Activity Ctrl+Shift+T	1	
vorites 🖷 Bull	<u>R</u> eformat Code Optimi <u>z</u> e Imports Local <u>H</u> istory	Ctrl+Alt+L Ctrl+Alt+O Google		
TODO	Show in Explorer Directory Path	Ctrl+Alt+F12 Ctrl+D Ctrl+D \$ Service UI Component \$ Wear \$ Widget \$ XML		
± (	Convert to WebP	🐻 Resource Bundle	5	

CARL CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR

👳 New Resourc	e File		×
<u>F</u> ile name:	settings_main	†↓	
<u>R</u> esource type:	XML	· · · · · · · · · · · · · · · · · · ·	
Root <u>e</u> lement:	PreferenceScreen		
<u>S</u> ource set:	main	· · · · · · · · · · · · · · · · · · ·	
Directory name:	xml		
A <u>v</u> ailable qualifiers:		C <u>h</u> osen qualifiers:	
na Country Code			
💀 Network Code		> Nething to show	
🕄 Locale		Nothing to show	
Layout Direction			
Smallest Scree	en Width		
🔤 Screen Width			
		OK Cancel Help	

#### settings\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<PreferenceScreen
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:title="@string/settings title">
    <EditTextPreference
        android:defaultValue="@string/settings min magnitude default"
        android: inputType="numberDecimal"
        android:key="@string/settings_min_magnitude_key"
        android:selectAllOnFocus="true"
8
        android:title="@string/settings_min_magnitude_label" />
```

</PreferenceScreen>

#### SettingsActivity.java

#### @Override

```
protected void onCreate(Bundle savedInstanceState) {
```

super.onCreate(savedInstanceState);

```
setContentView(R.layout.settings_activity);
```

public	static	class	EarthquakePreferenceFragment	extends	PreferenceFragment

#### 0verride

public void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

addPreferencesFromResource(R.xml.settings\_main);

#### Run APP

Earthquake Settings ← Minimum Magnitude  $\bullet$ ◄

#### 16 - Add URL building

• In EarthquakeActivity.java : modify USGS\_REQUEST\_URL with:

private static final String USGS\_REQUEST\_URL =
 "https://earthquake.usgs.gov/fdsnws/event/1/query";

#### EarthquakeActivity.java – onCreateLoader()

@Override

```
public Loader<List<Earthquake>> onCreateLoader(int i, Bundle bundle) {
    SharedPreferences sharedPrefs = PreferenceManager.getDefaultSharedPreferences(context: this);
    String minMagnitude = sharedPrefs.getString(
        getString(R.string.settings_min_magnitude_key),
        getString(R.string.settings_min_magnitude_default));
    Uri baseUri = Uri.parse(USGS_REQUEST_URL);
    Uri.Builder uriBuilder = baseUri.buildUpon();
    uriBuilder.appendQueryParameter("format", "geojson");
    uriBuilder.appendQueryParameter("limit", "10");
    uriBuilder.appendQueryParameter("minmag", minMagnitude);
```

```
uriBuilder.appendQueryParameter("orderby", "time");
```

return new EarthquakeLoader( context: this, uriBuilder.toString());

#### Run APP

$\geq$				ut 🛿 🖸 2:56			
÷	Earthqua	ke Settings					
Minii	Minimum Magnitude						
Г	Minimum	Magnitude					
L	2			_			
L			CANCEL	ок			
h							
	1	2	3	-			
4	4	5	6	<u> </u>			
-	7	8	9				
	,	0					
	▼	•					

Quake Report 🚍				
2.6	7км sw of Volcano, Hawaii	Apr 22, 2018 2:30 PM		
2.7	4KM S OF Volcano, Hawaii	Apr 22, 2018 2:30 PM		
3.0	76KM W OF Anchor Point, Alaska	Apr 22, 2018 1:17 PM		
3.4	41KM N OF Chirikof Island, Alaska	Apr 22, 2018 1:12 PM		
4.2	156KM NNE OF Dofa, Indonesia	Apr 22, 2018 12:46 PM		
3.3	22KM NNE OF San Ardo, CA	Apr 22, 2018 12:23 PM		
2.0	32KM SSW OF Valdez, Alaska	Apr 22, 2018 12:04 PM		
2.4	5KM SSW OF Volcano, Hawaii	Apr 22, 2018 11:57 AM		
2.2	14KM SW OF Westley, CA	Apr 22, 2018 10:37 AM		
	22KM SW OF	Apr 22, 2018		
	< ●			

#### 17 - Display preference summaries

• In SettingsActivity, in EarthquakePreferenceFragment class:

```
public static class EarthquakePreferenceFragment extends PreferenceFragment implements
        Preference.OnPreferenceChangeListener {
    Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        addPreferencesFromResource(R.xml.settings main);
        Preference minMagnitude = findPreference(getString(R.string.settings min magnitude key)
        bindPreferenceSummaryToValue(minMagnitude);
    @Override
    public boolean onPreferenceChange(Preference preference, Object value) {
        String stringValue = value.toString();
        preference.setSummary(stringValue);
        return true;
```

### Implement bindPreferenceSummaryToValue()

• Put it after onPreferenceChange()

```
private void bindPreferenceSummaryToValue(Preference preference) {
    preference.setOnPreferenceChangeListener(this);
    SharedPreferences preferences = PreferenceManager.getDefaultSharedPreferences(preference.getContext
());
    String preferenceString = preferences.getString(preference.getKey(), "");
    onPreferenceChange(preference, preferenceString);
}
```

#### Run APP

← Earthquake S	lettings
Minimum Magnitude 2	
٩	•

#### 18 - Add order-by preference

#### In strings.xml

```
<string name="settings_order_by_label">Order By</string>
<string name="settings_order_by_key" translatable="false">order_by</string>
<string name="settings order by default" translatable="false">@string/settings order by magnitude value</string>
```

```
<string name="settings_order_by_magnitude_label">Magnitude</string>
<string name="settings_order_by_magnitude_value" translatable="false">magnitude</string>
```

```
<string name="settings_order_by_most_recent_label">Most Recent</string>
    <string name="settings_order_by_most_recent_value" translatable="false">time</string>
</resources>
```

### Create res/values/arrays.xml

tures 42.5	<ul> <li>Earthquake</li> <li>EarthquakeActivity</li> <li>EarthquakeAdapter</li> </ul>	Km1 & Kotlin File/Class and Android resource file and Android resource directory		
Capi	New	Sample Data directory	👳 New Resource File	×
v 📭 res	Cut Ctrl Copy Ctrl Copy Path Ctrl+Shift	+X +C +C +C +C +C	Eile name:     arrays       Resource type:     Values	
> Da (	Copy as Plain Text Copy Reference Ctrl+Alt+Shift	C++ Class C/C++ Source File	Root element:     resources       Source set:     main	
► 🔤 v ► 💽 Gradi	Find Usages Alt+	F7 👎 Image Asset +F 🗣 Vector Asset	Directory name:   values     Available qualifiers:   Chosen qualifiers:	
	Replace in Path Ctrl+Shift	+R 着 Singleton	S Country Code	
	Analyze	<ul> <li>Edit File Templates</li> </ul>	Network Code     Nothing to show	2
51	<u>R</u> efactor	+ 🕂 AIDL 🔸	S Locale	
ld Variar	Add to Favorites Show Image Thumbnails Ctrl+Shift	♦ Activity +T ● Android Auto	<ul> <li>Smallest Screen Width</li> <li>Screen Width</li> </ul>	
Buil	Reformat CodeCtrl+AlOptimize ImportsCtrl+Alt	Folder     Fragment	OK Cancel	Help
avorites	Local <u>H</u> istory Ø Synchronize 'res'	Google     Other		
2	Show in Explorer	Service		
*	Directory Path Ctrl+Alt+F	12 Wear		
TODO	Compare With Ctrl	D - Widget		
	• Create Gist Convert to WebP	XML     Kesource Bundle		

#### arrays.xml

#### Settings\_main.xml

#### <PreferenceScreen</pre>

xmlns:android="http://schemas.android.com/apk/res/android"
android:title="@string/settings\_title">

#### <ListPreference

```
android:defaultValue="@string/settings_order_by_default"
android:entries="@array/settings_order_by_labels"
android:entryValues="@array/settings_order_by_values"
android:key="@string/settings_order_by_key"
android:title="@string/settings_order_by_label" />
```

#### <EditTextPreference

```
android:defaultValue="@string/settings_min_magnitude_default"
android:inputType="numberDecimal"
android:key="@string/settings_min_magnitude_key"
android:selectAllOnFocus="true"
android:title="@string/settings_min_magnitude_label" />
```

</PreferenceScreen>

### EarthquakeActivity.java – onCreateLoader()

public Loader<List<Earthquake>> onCreateLoader(int i, Bundle bundle) {

SharedPreferences sharedPrefs = PreferenceManager.getDefaultSharedPreferences( context: this);
String minMagnitude = sharedPrefs.getString(

getString(R.string.settings min magnitude key),

getString(R.string.settings\_min\_magnitude\_default));

String orderBy = sharedPrefs.getString(
 getString(R.string.settings\_order\_by\_key),
 getString(R.string.settings\_order\_by\_default));

```
Uri baseUri = Uri.parse(USGS_REQUEST_URL);
Uri.Builder uriBuilder = baseUri.buildUpon();
```

```
uriBuilder.appendQueryParameter("format", "geojson");
uriBuilder.appendQueryParameter("limit", "10");
uriBuilder.appendQueryParameter("minmag", minMagnitude);
uriBuilder.appendQueryParameter("orderby", orderBy);
```

return new EarthquakeLoader( context: this, uriBuilder.toString());

#### SettingsActivity.java --EarthquakePreferenceFragment class

```
public static class EarthquakePreferenceFragment extends PreferenceFragment implements
    Preference.OnPreferenceChangeListener {
    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        addPreferencesFromResource(R.xml.settings_main);
        Preference minMagnitude = findPreference(getString(R.string.settings_min_magnitude_key));
        bindPreferenceSummaryToValue(minMagnitude);
        Preference orderBy = findPreference(getString(R.string.settings_order_by_key));
        }
    }
}
```

```
bindPreferenceSummaryToValue(orderBy);
```

### SettingsActivity.java – onPreferenceChange()

#### @Override

public boolean onPreferenceChange(Preference preference, Object value) {
 String stringValue = value.toString();

if (preference instanceof ListPreference) {
 ListPreference listPreference = (ListPreference) preference;
 int prefIndex = listPreference.findIndexOfValue(stringValue);
 if (prefIndex >= 0) {
 CharSequence[] labels = listPreference.getEntries();
 preference.setSummary(labels[prefIndex]);
 }
}

else {

preference.setSummary(stringValue);

return true;

#### Run APP

