

更新今日天气数据

资源文件: [下载地址](#)

主要步骤

1. 初始化界面控件

定义相关的控件对象

```
/**
 * Created by zhangqixun on 16/7/4.
 */
public class MainActivity extends Activity implements View.OnClickListener {

    private ImageView mUpdateBtn;

    private TextView cityTv, timeTv, humidityTv, weekTv, pmDataTv, pmQualityTv,
        temperatureTv, climateTv, windTv, city_name_Tv;
    private ImageView weatherImg, pmImg;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.weather_info);

        mUpdateBtn = (ImageView) findViewById(R.id.title_update_btn);
        mUpdateBtn.setOnClickListener(this);

        if (NetUtil.getNetworkState(this) != NetUtil.NETWORK_NONE) {
            Log.d("myWeather", "网络OK");
            Toast.makeText(MainActivity.this, "网络OK! ", Toast.LENGTH_LONG).show();
        } else {
            Log.d("myWeather", "网络挂了");
            Toast.makeText(MainActivity.this, "网络挂了! ", Toast.LENGTH_LONG).show();
        }
    }
}
```

```
private TextView cityTv, timeTv, humidityTv, weekTv, pmDataTv,
pmQualityTv,
        temperatureTv, climateTv, windTv, city_name_Tv;
private ImageView weatherImg, pmImg;
```

初始化控件内容

```
void initView(){
    city_name_Tv = (TextView) findViewById(R.id.title_city_name);
    cityTv = (TextView) findViewById(R.id.city);
    timeTv = (TextView) findViewById(R.id.time);
    humidityTv = (TextView) findViewById(R.id.humidity);
    weekTv = (TextView) findViewById(R.id.week_today);
    pmDataTv = (TextView) findViewById(R.id.pm_data);
    pmQualityTv = (TextView) findViewById(R.id.pm2_5_quality);
    pmImg = (ImageView) findViewById(R.id.pm2_5_img);
    temperatureTv = (TextView) findViewById(R.id.temperature);
    climateTv = (TextView) findViewById(R.id.climate);
    windTv = (TextView) findViewById(R.id.wind);
    weatherImg = (ImageView) findViewById(R.id.weather_img);

    city_name_Tv.setText("N/A");
    cityTv.setText("N/A");
    timeTv.setText("N/A");
    humidityTv.setText("N/A");
    pmDataTv.setText("N/A");
    pmQualityTv.setText("N/A");
    weekTv.setText("N/A");
    temperatureTv.setText("N/A");
    climateTv.setText("N/A");
    windTv.setText("N/A");
}
```

```
void initView(){
    city_name_Tv = (TextView) findViewById(R.id.title_city_name);
    cityTv = (TextView) findViewById(R.id.city);
    timeTv = (TextView) findViewById(R.id.time);
    humidityTv = (TextView) findViewById(R.id.humidity);
    weekTv = (TextView) findViewById(R.id.week_today);
    pmDataTv = (TextView) findViewById(R.id.pm_data);
    pmQualityTv = (TextView) findViewById(R.id.pm2_5_quality);

    pmImg = (ImageView) findViewById(R.id.pm2_5_img);
    temperatureTv = (TextView) findViewById(R.id.temperature);

    climateTv = (TextView) findViewById(R.id.climate);
    windTv = (TextView) findViewById(R.id.wind);
    weatherImg = (ImageView) findViewById(R.id.weather_img);

    city_name_Tv.setText("N/A");
    cityTv.setText("N/A");
    timeTv.setText("N/A");
    humidityTv.setText("N/A");
    pmDataTv.setText("N/A");
    pmQualityTv.setText("N/A");
    weekTv.setText("N/A");
    temperatureTv.setText("N/A");
    climateTv.setText("N/A");
    windTv.setText("N/A");
}
```

在onCreate方法中调用initView函数。

```
/**
 * Created by zhangqixun on 16/7/4.
 */
public class MainActivity extends Activity implements View.OnClickListener {

    private ImageView mUpdateBtn;

    private TextView cityTv, timeTv, humidityTv, weekTv, pmDataTv, pmQualityTv,
        temperatureTv, climateTv, windTv, city_name_Tv;
    private ImageView weatherImg, pmImg;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.weather_info);

        mUpdateBtn = (ImageView) findViewById(R.id.title_update_btn);
        mUpdateBtn.setOnClickListener(this);

        if (NetUtil.getNetworkState(this) != NetUtil.NETWORK_NONE) {
            Log.d("myWeather", "网络OK");
            Toast.makeText(MainActivity.this, "网络OK! ", Toast.LENGTH_LONG).show();
        } else {
            Log.d("myWeather", "网络挂了");
            Toast.makeText(MainActivity.this, "网络挂了! ", Toast.LENGTH_LONG).show();
        }

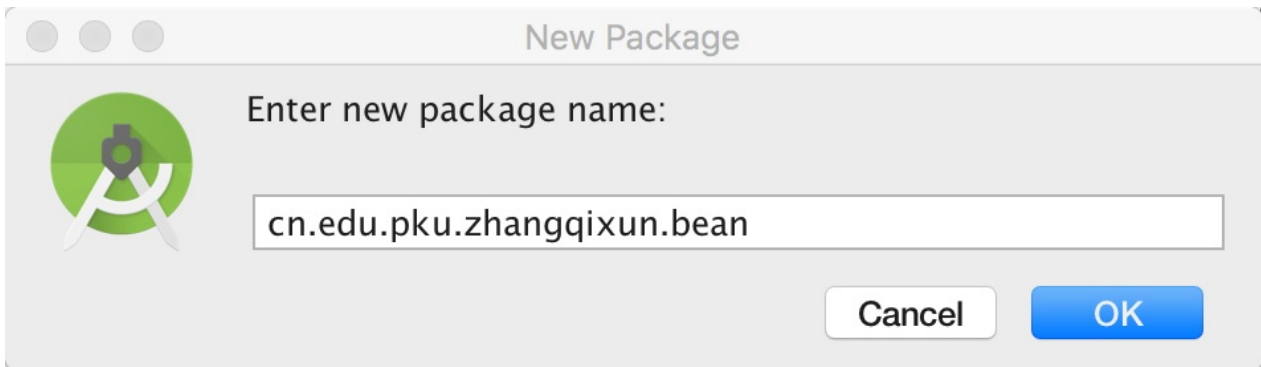
        initView();
    }

    void initView(){
        city_name_Tv = (TextView) findViewById(R.id.title_city_name);
        cityTv = (TextView) findViewById(R.id.city);
        timeTv = (TextView) findViewById(R.id.time);
        humidityTv = (TextView) findViewById(R.id.humidity);
    }
}
```

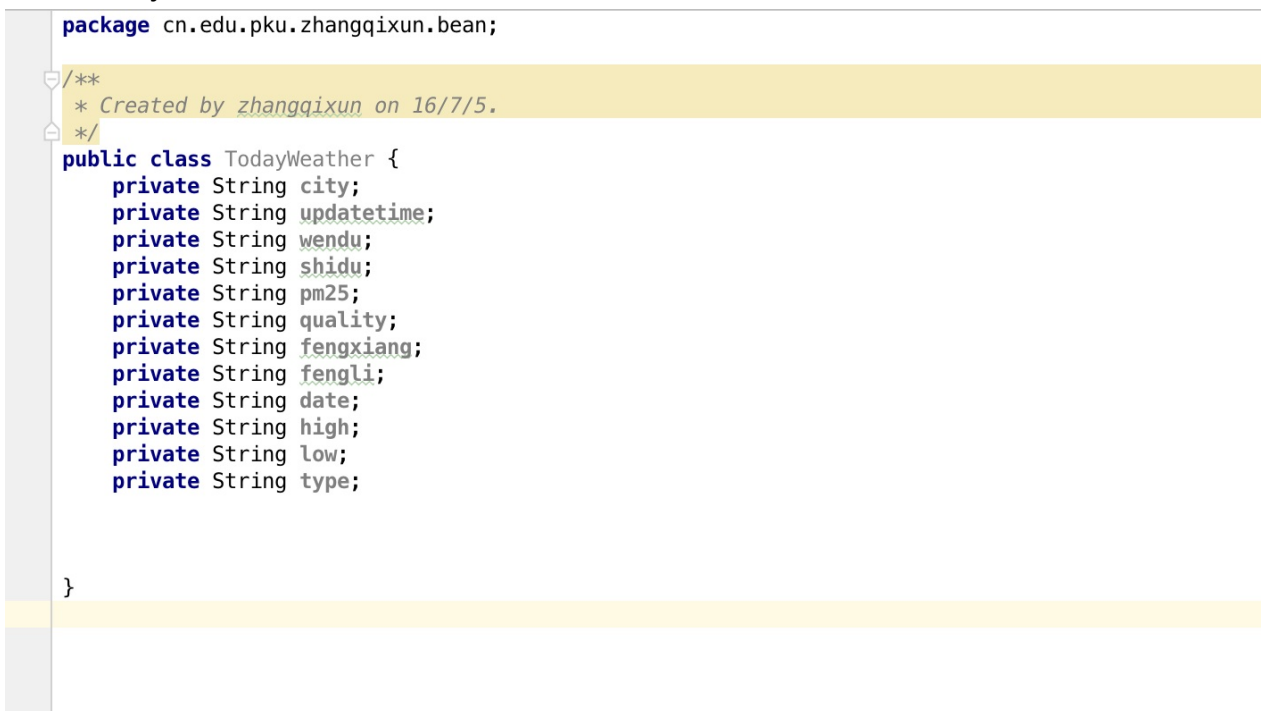
程序运行结果如下



2.建立 TodayWeather Bean



新建TodayWeather类



```
private String city;
private String updatetime;
private String wendu;
private String shidu;
private String pm25;
private String quality;
private String fengxiang;
private String fengli;
private String date;
private String high;
private String low;
private String type;
```

通过工具提供的功能生成get、set、toString方法。

```
/**
 * Created by zhangqixun on 16/7/5.
 */
public class TodayWeather {
    private String city;
    private String updatetime;
    private String wendu;
    private String shidu;
    private String pm25;
    private String quality;
    private String fengxiang;
    private String fengli;
    private String date;
    private String high;
    private String low;
    private String type;

    public String getCity() {
        return city;
    }

    public String getUpdatetime() {
        return updatetime;
    }

    public String getWendu() {
        return wendu;
    }

    public String getShidu() {
        return shidu;
    }

    public String getPm25() {
        return pm25;
    }
}
```

.....

```
public void setDate(String date) {
    this.date = date;
}

public void setHigh(String high) {
    this.high = high;
}

public void setLow(String low) {
    this.low = low;
}

public void setType(String type) {
    this.type = type;
}

@Override
public String toString() {
    return "TodayWeather{" +
        "city='" + city + '\'' +
        ", updatetime='" + updatetime + '\'' +
        ", wendu='" + wendu + '\'' +
        ", shidu='" + shidu + '\'' +
        ", pm25='" + pm25 + '\'' +
        ", quality='" + quality + '\'' +
        ", fengxiang='" + fengxiang + '\'' +
        ", fengli='" + fengli + '\'' +
        ", date='" + date + '\'' +
        ", high='" + high + '\'' +
        ", low='" + low + '\'' +
        ", type='" + type + '\'' +
        '}';
}
```

3.将解析的数据存入TodayWeather对象中

修改解析函数

```
private TodayWeather parseXML(String xmldata){
    TodayWeather todayWeather = null;
    int fengxiangCount=0;
    int fengliCount =0;
    int dateCount=0;
    int highCount =0;
    int lowCount=0;
    int typeCount =0;
```

```
try {
    XmlPullParserFactory fac = XmlPullParserFactory.newInstance();
    XmlPullParser xmlPullParser = fac.newPullParser();
    xmlPullParser.setInput(new StringReader(xmldata));
    int eventType = xmlPullParser.getEventType();
    Log.d("myWeather", "parseXML");
    while (eventType != XmlPullParser.END_DOCUMENT) {
        switch (eventType) {
            // 判断当前事件是否为文档开始事件
            case XmlPullParser.START_DOCUMENT:
                break;
            // 判断当前事件是否为标签元素开始事件
            case XmlPullParser.START_TAG:
                if(xmlPullParser.getName().equals("resp"
))){
                    todayWeather= new TodayWeather();
                }
                if (todayWeather != null) {
                    if (xmlPullParser.getName().equals("city")) {
                        eventType = xmlPullParser.next();
                        todayWeather.setCity(xmlPullParser.getText());
                    } else if (xmlPullParser.getName().equals("updatetime")) {
                        eventType = xmlPullParser.next();
                        todayWeather.setUptime(xmlPullParser.getText());
                    } else if (xmlPullParser.getName().equals("shidu")) {
                        eventType = xmlPullParser.next();
                        todayWeather.setShidu(xmlPullParser.getText());
                    } else if (xmlPullParser.getName().equals("wendu")) {
                        eventType = xmlPullParser.next();
```

```
;
                                todayWeather.setWendu(xmlPullParser
ser.getText());
                                } else if (xmlPullParser.getName().e
quals("pm25")) {
                                    eventType = xmlPullParser.next()
;
                                    todayWeather.setPm25(xmlPullPars
er.getText());
                                } else if (xmlPullParser.getName().e
quals("quality")) {
                                    eventType = xmlPullParser.next()
;
                                    todayWeather.setQuality(xmlPullP
arser.getText());
                                } else if (xmlPullParser.getName().e
quals("fengxiang") && fengxiangCount == 0) {
                                    eventType = xmlPullParser.next()
;
                                    todayWeather.setFengxiang(xmlPul
lParser.getText());
                                    fengxiangCount++;
                                } else if (xmlPullParser.getName().e
quals("fengli") && fengliCount == 0) {
                                    eventType = xmlPullParser.next()
;
                                    todayWeather.setFengli(xmlPullPa
rser.getText());
                                    fengliCount++;
                                } else if (xmlPullParser.getName().e
quals("date") && dateCount == 0) {
                                    eventType = xmlPullParser.next()
;
                                    todayWeather.setDate(xmlPullPars
er.getText());
                                    dateCount++;
                                } else if (xmlPullParser.getName().e
quals("high") && highCount == 0) {
                                    eventType = xmlPullParser.next()
;

```

```
                todayWeather.setHigh(xmlPullParser
er.getText().substring(2).trim());
                highCount++;
            } else if (xmlPullParser.getName().e
quals("low") && lowCount == 0) {
                eventType = xmlPullParser.next()
;
                todayWeather.setLow(xmlPullParse
r.getText().substring(2).trim());
                lowCount++;
            } else if (xmlPullParser.getName().e
quals("type") && typeCount == 0) {
                eventType = xmlPullParser.next()
;
                todayWeather.setType(xmlPullPars
er.getText());
                typeCount++;
            }
        }

        break;

        // 判断当前事件是否为标签元素结束事件
        case XmlPullParser.END_TAG:
            break;
    }
    // 进入下一个元素并触发相应事件
    eventType = xmlPullParser.next();
}
} catch (XmlPullParserException e) {
    e.printStackTrace();
} catch (IOException e) {
    e.printStackTrace();
}
return todayWeather;
}
```

调用parseXML，并返回TodayWeather对象。

```
private void queryWeatherCode(String cityCode) {
    final String address = "http://wthrcdn.etouch.cn/WeatherApi?citykey=" + cityCode;

    Log.d("myWeather", address);
    new Thread(new Runnable() {
        @Override
        public void run() {
            HttpURLConnection con = null;
            TodayWeather todayWeather = null;
            try {
                URL url = new URL(address);
                con = (HttpURLConnection) url.openConnection();
                con.setRequestMethod("GET");
                con.setConnectTimeout(8000);
                con.setReadTimeout(8000);
                InputStream in = con.getInputStream();
                BufferedReader reader = new BufferedReader(new InputStreamReader(in));
                StringBuilder response = new StringBuilder();
                String str;
                while ((str = reader.readLine()) != null) {
                    response.append(str);
                    Log.d("myWeather", str);
                }
                String responseStr = response.toString();
                Log.d("myWeather", responseStr);

                todayWeather = parseXML(responseStr);
                if (todayWeather != null) {
                    Log.d("myWeather", todayWeather.toString());
                }
            } catch (Exception e) {
                e.printStackTrace();
            } finally {
                if (con != null) {
                    con.disconnect();
                }
            }
        }
    });
}
```

```
TodayWeather todayWeather = null;
```

```
todayWeather = parseXML(responseStr);
if (todayWeather != null) {
    Log.d("myWeather", todayWeather.toString());
}
```

运行结果如下：

```
logcat Monitors →* Verbose Q: myWeather Regex Show only selected application
07-05 15:49:05.546 11835-11835/cn.edu.pku.zhangqixun.miniweather D/myWeather: 101010100
07-05 15:49:05.547 11835-11835/cn.edu.pku.zhangqixun.miniweather D/myWeather: 网络OK
07-05 15:49:05.547 11835-11835/cn.edu.pku.zhangqixun.miniweather D/myWeather: http://wthrcdn.etouch.cn/WeatherApi?citykey=101010100
07-05 15:49:05.821 11835-12114/cn.edu.pku.zhangqixun.miniweather D/myWeather: <?xml version="1.0" encoding="UTF-8"?><resp><city>北京</city><updateTime>15:20</updateTime>
07-05 15:49:05.821 11835-12114/cn.edu.pku.zhangqixun.miniweather D/myWeather: <?xml version="1.0" encoding="UTF-8"?><resp><city>北京</city><updateTime>15:20</updateTime>
07-05 15:49:05.822 11835-12114/cn.edu.pku.zhangqixun.miniweather D/myWeather: parseXML
07-05 15:49:05.855 11835-12114/cn.edu.pku.zhangqixun.miniweather D/myWeather: TodayWeather{city='北京', updateTime='15:20', wendu='31', shidu='44%', pm25='87', quality
```

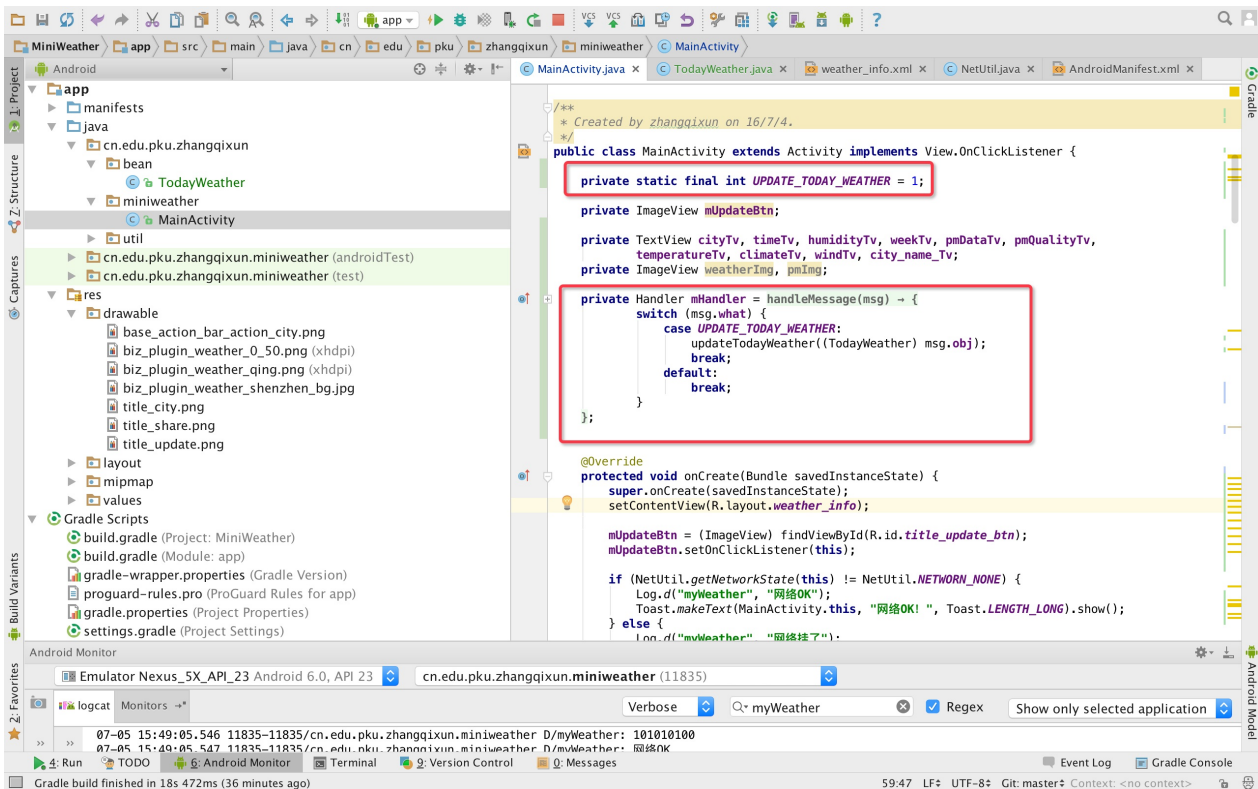
4.利用TodayWeather对象更新UI中的控件

编写 updateTodayWeather 函数。

```
void updateTodayWeather(TodayWeather todayWeather){
    city_name_Tv.setText(todayWeather.getCity()+"天气");
    cityTv.setText(todayWeather.getCity());
    timeTv.setText(todayWeather.getUpdatetime()+ "发布");
    humidityTv.setText("湿度："+todayWeather.getShidu());
    pmDataTv.setText(todayWeather.getPm25());
    pmQualityTv.setText(todayWeather.getQuality());
    weekTv.setText(todayWeather.getDate());
    temperatureTv.setText(todayWeather.getHigh()+"~"+todayWeather.getLow());
    climateTv.setText(todayWeather.getType());
    windTv.setText("风力："+todayWeather.getFengli());
    Toast.makeText(MainActivity.this,"更新成功！",Toast.LENGTH_SHORT).show();
}
```

通过消息机制，将解析的天气对象，通过消息发送给主线程，主线程接收到消息数据后，调用updateTodayWeather函数，更新UI界面上的数据。

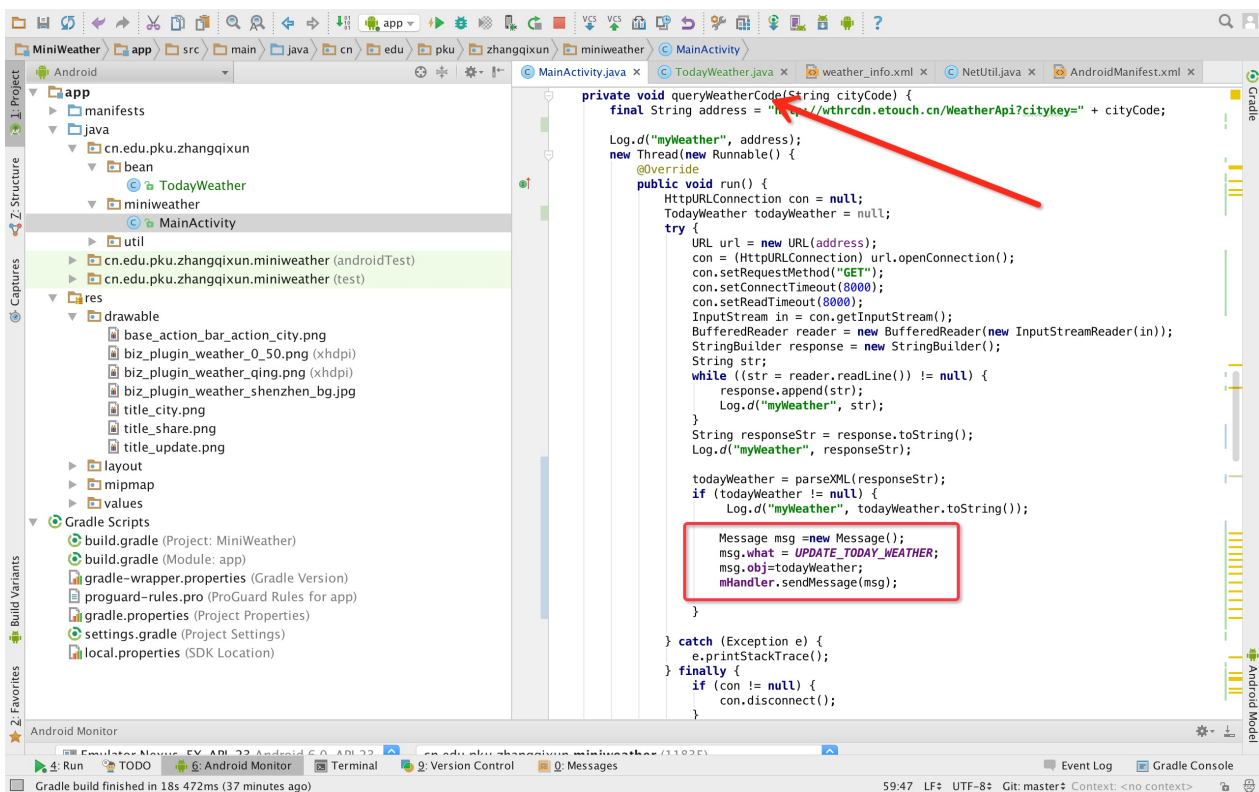
7.更新今日天气数据



```
private static final int UPDATE_TODAY_WEATHER = 1;
```

```
private Handler mHandler = new Handler() {
    public void handleMessage(android.os.Message msg) {
        switch (msg.what) {
            case UPDATE_TODAY_WEATHER:
                updateTodayWeather((TodayWeather) msg.obj);
                break;
            default:
                break;
        }
    }
};
```

7.更新今日天气数据



```
Message msg = new Message();
msg.what = UPDATE_TODAY_WEATHER;
msg.obj = todayWeather;
mHandler.sendMessage(msg);
```

程序运行结果：



单击更新后，界面如下：



备注：

1. 兰州城市代码为：101160101
2. 关于如何更新ImageView，请大家尝试自行完成，相应的图片资源文件已经提供。