

Android TabLayout

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TabLayout is used to implement horizontal tabs. TabLayout is released by Android after the deprecation of *ActionBar.TabListener* (*API level 21*).

TabLayout is introduced in design support library to implement tabs.

Tabs are created using *newTab()* method of TabLayout class. The title and icon of Tabs are set through *setText(int)* and *setIcon(int)* methods of TabListener interface respectively. Tabs of layout are attached over TabLayout using the method *addTab(Tab)* method.

```
TabLayout tabLayout = (TabLayout)findViewById(R.id.tabLayout);
tabLayout.addTab(tabLayout.newTab().setText("Tab 1"));
tabLayout.addTab(tabLayout.newTab().setText("Tab 2"));
tabLayout.addTab(tabLayout.newTab().setText("Tab 3"));
```

We can also add tab item to TabLayout using TabItem of android design widget.

```
<android.support.design.widget.TabItem
    android:text="@string/tab_text" />
```

Example of TabLayout using ViewPager

Let's create an example of TabLayout using ViewPager and Fragment.

File: activity.xml

Create an activity.xml file with TabLayout and ViewPager view components.

```
<?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="tablayout.example.com.tablayout.MainActivity">

    <android.support.design.widget.TabLayout
        android:id="@+id/tabLayout"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="#1db995">
    </android.support.design.widget.TabLayout>

    <android.support.v4.view.ViewPager
        android:id="@+id/viewPager"
        android:layout_width="355dp"
        android:layout_height="455dp"
        app:layout_constraintTop_toBottomOf="@+id/tabLayout"
        tools:layout_editor_absoluteX="8dp" />

</android.support.constraint.ConstraintLayout>
```

File: build.gradle

Now gave the dependency library of TabLayout in build.gradle file.

```
implementation 'com.android.support:design:26.1.0'
```

File: MainActivity.java

In this file, we implement two additional listener *addOnPageChangeListener(listener)* of ViewPager which makes slides the different fragments of tabs and *addOnTabSelectedListener(listener)* of TabLayout which select the current tab on tab selection.

```
package tablayout.example.com.tablayout;

import android.support.design.widget.TabLayout;
import android.support.v4.view.ViewPager;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {
    TabLayout tabLayout;
    ViewPager viewPager;

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

        tabLayout=(TabLayout)findViewById(R.id.tabLayout);
        viewPager=(ViewPager)findViewById(R.id.viewPager);

        tabLayout.addTab(tabLayout.newTab().setText("Home"));
        tabLayout.addTab(tabLayout.newTab().setText("Sport"));
        tabLayout.addTab(tabLayout.newTab().setText("Movie"));
        tabLayout.setTabGravity(TabLayout.GRAVITY_FILL);

        final MyAdapter adapter = new MyAdapter(this, getSupportFragmentManager(), tabLayout.getTabCount());
        viewPager.setAdapter(adapter);

        viewPager.addOnPageChangeListener(new TabLayout.TabLayoutOnPageChangeListener(tabLayout));

        tabLayout.addOnTabSelectedListener(new TabLayout.OnTabSelectedListener() {
            @Override
            public void onTabSelected(TabLayout.Tab tab) {
                viewPager.setCurrentItem(tab.getPosition());
            }

            @Override
            public void onTabUnselected(TabLayout.Tab tab) {

            }

            @Override
            public void onTabReselected(TabLayout.Tab tab) {

            }
        });
    }
}
```

File: MyAdapter.java

```
package tablayout.example.com.tablayout;

import android.content.Context;
import android.support.v4.app.Fragment;
import android.support.v4.app.FragmentManager;
import android.support.v4.app.FragmentPagerAdapter;
import android.support.v4.app.FragmentManager;

public class MyAdapter extends FragmentPagerAdapter {

    private Context myContext;
    int totalTabs;

    public MyAdapter(Context context, FragmentManager fm, int totalTabs) {
        super(fm);
        myContext = context;
        this.totalTabs = totalTabs;
    }

    // this is for fragment tabs
    @Override
    public Fragment getItem(int position) {
        switch (position) {
            case 0:
                HomeFragment homeFragment = new HomeFragment();
                return homeFragment;
            case 1:
                SportFragment sportFragment = new SportFragment();
                return sportFragment;
            case 2:
                MovieFragment movieFragment = new MovieFragment();
                return movieFragment;
            default:
                return null;
        }
    }

    // this counts total number of tabs
    @Override
    public int getCount() {
        return totalTabs;
    }
}
```

Now create different fragment files for all different tabs.

File: HomeFragment.java

```
package tablayout.example.com.tablayout;

import android.os.Bundle;
import android.support.v4.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

public class HomeFragment extends Fragment {

    public HomeFragment() {
        // Required empty public constructor
    }

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_home, container, false);
    }
}
```

File: fragment_home.xml

```
<FrameLayout 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="tablayout.example.com.tablayout.HomeFragment">

    <!-- TODO: Update blank fragment layout -->

    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:gravity="center"
        android:text="@string/home_fragment" />

</FrameLayout>
```

File: SportFragment.java

```
package tablayout.example.com.tablayout;

import android.os.Bundle;
import android.support.v4.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

public class SportFragment extends Fragment {

    public SportFragment() {
        // Required empty public constructor
    }

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_sport, container, false);
    }
}
```

File: fragment_sport.xml

```
<FrameLayout 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="tablayout.example.com.tablayout.SportFragment">

    <!-- TODO: Update blank fragment layout -->

    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:gravity="center"
        android:text="@string/sport_fragment" />

</FrameLayout>
```

File: MovieFragment.java

```
package tablayout.example.com.tablayout;

import android.os.Bundle;
import android.support.v4.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

public class MovieFragment extends Fragment {

    public MovieFragment() {
        // Required empty public constructor
    }

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        // Inflate the layout for this fragment
        return inflater.inflate(R.layout.fragment_movie, container, false);
    }
}
```

File: fragment_movie.xml

```
<FrameLayout 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="tablayout.example.com.tablayout.MovieFragment">

    <!-- TODO: Update blank fragment layout -->

    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:gravity="center"
        android:text="@string/movie_fragment" />

</FrameLayout>
```

File: strings.xml

```
<resources>
    <string name="app_name">TabLayout</string>

    <!-- TODO: Remove or change this placeholder text -->
    <string name="home_fragment">Sport Fragment</string>
    <string name="sport_fragment">Sport Fragment</string>
    <string name="movie_fragment">Movie Fragment</string>

</resources>
```

Output

