

## Experiment 31

1.

### strings\_xml:

```
<resources>
  <string name="app_name">Exp31</string>
  <string
name="google_api_key">AIzaSyD4KfDcLVjVPatpIKtrPXot024Z4UHVZQ8</string>
</resources>
```

### activity\_main.xml:

```
<RelativeLayout
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=".MainActivity">
  <fragment
android:id="@+id/map"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:name="com.google.android.gms.maps.SupportMapFragment"/>
</RelativeLayout>
```

### MainActivity.java:

```
package com.example.exp31;
import android.Manifest;
import android.content.pm.PackageManager;
import android.location.Location;
import android.os.Build;
import android.os.Bundle;
import android.widget.Toast;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;
import androidx.core.content.ContextCompat;
import androidx.fragment.app.FragmentActivity;
import com.google.android.gms.common.ConnectionResult;
import com.google.android.gms.common.api.GoogleApiClient;
import com.google.android.gms.location.FusedLocationProviderClient;
import com.google.android.gms.location.LocationListener;
import com.google.android.gms.location.LocationRequest;
import com.google.android.gms.location.LocationServices;
import com.google.android.gms.maps.CameraUpdateFactory;
import com.google.android.gms.maps.GoogleMap;
import com.google.android.gms.maps.OnMapReadyCallback;
import com.google.android.gms.maps.SupportMapFragment;
```

```

import com.google.android.gms.maps.internal.ICameraUpdateFactoryDelegate;
import com.google.android.gms.maps.model.BitmapDescriptorFactory;
import com.google.android.gms.maps.model.LatLng;
import com.google.android.gms.maps.model.Marker;
import com.google.android.gms.maps.model.MarkerOptions;
import com.google.android.gms.tasks.OnSuccessListener;
import com.google.android.gms.tasks.Task;
public class MainActivity extends FragmentActivity implements OnMapReadyCallback {
    Location currentLocation;
    FusedLocationProviderClient fusedLocationProviderClient;
    private static final int REQUEST_CODE = 101;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        fusedLocationProviderClient =
        LocationServices.getFusedLocationProviderClient(this);
        fetchLastLocation();
    }
    private void fetchLastLocation() {
        if (ActivityCompat.checkSelfPermission(this,
        Manifest.permission.ACCESS_FINE_LOCATION) !=
        PackageManager.PERMISSION_GRANTED &&
        ActivityCompat.checkSelfPermission(this,
        Manifest.permission.ACCESS_COARSE_LOCATION) !=
        PackageManager.PERMISSION_GRANTED)
        {
            ActivityCompat.requestPermissions(this, new
            String[] {Manifest.permission.ACCESS_FINE_LOCATION}, REQUEST_CODE);
            return;
        }
        Task<Location> task = fusedLocationProviderClient.getLastLocation();
        task.addOnSuccessListener(new OnSuccessListener<Location>() {
            @Override
            public void onSuccess(Location location) {
                if(location!=null){
                    currentLocation = location;
                    Toast.makeText(getApplicationContext(), "Latitude:
                    "+currentLocation.getLatitude()+"\n"+"Longitude: "+currentLocation.getLongitude(),
                    Toast.LENGTH_SHORT).show();
                    SupportMapFragment supportMapFragment = (SupportMapFragment)
                    getSupportFragmentManager().findFragmentById(R.id.map);
                    supportMapFragment.getMapAsync(MainActivity.this);
                }
            }
        });
    }
}

```

```

}
@Override
public void onMapReady(GoogleMap googleMap) {
    LatLng latLng = new
    LatLng(currentLocation.getLatitude(),currentLocation.getLongitude());
    MarkerOptions options = new MarkerOptions().position(latLng).title("I am
    Here");
    googleMap.animateCamera(CameraUpdateFactory.newLatLng(latLng));
    googleMap.animateCamera(CameraUpdateFactory.newLatLngZoom(latLng,5));
    googleMap.addMarker(options);
}
@Override
public void onRequestPermissionsResult(int requestCode, @NonNull String[]
permissions, @NonNull int[] grantResults) {
    super.onRequestPermissionsResult(requestCode, permissions, grantResults);
    switch (requestCode){
    case REQUEST_CODE:
    if(grantResults.length>0 &&
    grantResults[0]==PackageManager.PERMISSION_GRANTED){
    fetchLastLocation();
    }
    break;
    }
}
}
}
}

```

### Output:

