

- activity_main.xml

```
• <?xml version="1.0" encoding="utf-8"?>
  <RelativeLayout
    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"
    android:padding="10dp"
    tools:context=".MainActivity">

    <TextView
      android:id="@+id/txtList"
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:text="Student List"
      android:textSize="30sp"
      android:textStyle="bold"
      android:textColor="#0E0E0E" />

    <androidx.appcompat.widget.AppCompatButton
      android:id="@+id/btnAddStudent"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Add Student"
      android:textSize="20sp"
      android:background="#1DE425"
      android:textColor="@color/white"
      android:textAllCaps="false"
      android:padding="10dp"
      android:layout_alignParentRight="true"/>

    <androidx.recyclerview.widget.RecyclerView
      android:id="@+id/recyclerView"
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:scrollbars="vertical"
      android:layout_below="@id/btnAddStudent"/>

  </RelativeLayout>
```

- std_item_layout.xml

```
• <?xml version="1.0" encoding="utf-8"?>
  <RelativeLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:padding="10dp">
    <TextView
      android:id="@+id/txtId"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_alignParentTop="true"
```

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        android:layout_marginTop="15dp"
        android:text="ID"
        android:textSize="23sp"/>
    <TextView
        android:id="@+id/txtName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="23sp"
        android:text="Name"
        android:layout_marginTop="15dp"
        android:layout_marginLeft="20dp"
        android:layout_toRightOf="@id/txtId"/>
    <TextView
        android:id="@+id/txtAge"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Age"
        android:textSize="20sp"
        android:layout_below="@id/txtName"
        />
</RelativeLayout>

```

- activity_insert.xml

```

• <?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    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=".InsertActivity"
    android:padding="10dp"
    android:orientation="vertical">
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Add Student"
        android:textAlignment="center"
        android:textSize="25sp"
        android:textStyle="bold"/>
    <com.google.android.material.textfield.TextInputLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"

        style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
        android:hint="Student ID"
        android:layout_marginTop="12dp">
        <com.google.android.material.textfield.TextInputEditText
            android:id="@+id/edtId"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:inputType="text"
            android:textSize="20sp"/>
    </com.google.android.material.textfield.TextInputLayout>

```

```

        <com.google.android.material.textfield.TextInputLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"

style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
            android:hint="Student Name"
            android:layout_marginTop="12dp">
            <com.google.android.material.textfield.TextInputEditText
                android:id="@+id/edtName"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:inputType="text"
                android:textSize="20sp"/>
        </com.google.android.material.textfield.TextInputLayout>
        <com.google.android.material.textfield.TextInputLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"

style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
            android:hint="Age"
            android:layout_marginTop="12dp">
            <com.google.android.material.textfield.TextInputEditText
                android:id="@+id/edtAge"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:inputType="number"
                android:textSize="20sp"/>
        </com.google.android.material.textfield.TextInputLayout>
        <androidx.appcompat.widget.AppCompatButton
            android:id="@+id/btnAdd"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="10dp"
            android:background="#69F0AE"
            android:text="Add"
            android:textSize="20sp"/>

        <androidx.appcompat.widget.AppCompatButton
            android:id="@+id/btnReset"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="10dp"
            android:background="#F8848d"
            android:text="Reset"
            android:textSize="20sp"/>

    </LinearLayout>

```

- MainActivity.kt

```
package com.example.lab8mysql_queryinsert
```

```

import Student
import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Toast
import androidx.recyclerview.widget.DividerItemDecoration
import androidx.recyclerview.widget.LinearLayoutManager
import com.example.lab8mysql_queryinsert.databinding.ActivityMainBinding
import retrofit2.Call
import retrofit2.Callback
import retrofit2.Response
import retrofit2.Retrofit
import retrofit2.converter.gson.GsonConverterFactory

class MainActivity : AppCompatActivity() {
    private lateinit var binding: ActivityMainBinding
    var studentList = arrayListOf<Student>()

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)

        binding = ActivityMainBinding.inflate(layoutInflater)
        setContentView(binding.root)

        //Link To ReView
        binding.recyclerView.adapter =
StudentsAdapter(this.studentList,applicationContext)
        binding.recyclerView.layoutManager =
LinearLayoutManager(applicationContext)
        binding.recyclerView.addItemDecoration(
            DividerItemDecoration(binding.recyclerView.getContext(),
                DividerItemDecoration.VERTICAL)
        )
        binding.btnAddStudent.setOnClickListener{
            val intent =
Intent(applicationContext,InsertActivity::class.java)
            startActivity(intent)
        }
    }
    override fun onResume() {
        super.onResume()
        callStudentData()
    }
    private fun callStudentData() {
        studentList.clear();
        val serv : StudentAPI = Retrofit.Builder()
            .baseUrl("http://10.0.2.2:3000/")
            .addConverterFactory(GsonConverterFactory.create())
            .build()
            .create(StudentAPI::class.java)
        serv.retrieveStudent()
            .enqueue(object : Callback<List<Student>> {
                override fun onResponse(call: Call<List<Student>>,
                    response: Response<List<Student>>){
                    response.body() ?.forEach{
studentList.add(Student(it.std_id,it.std_name,it.std_age))

```

```

        }
        //Set Data 2 review
        binding.recyclerView.adapter =
StudentsAdapter(studentList,applicationContext)
        binding.txtList.text = "Student List:
"+studentList.size.toString()
    }

    override fun onFailure(call: Call<List<Student>>, t:
Throwable) {
        Toast.makeText(applicationContext,"Error on Fialure"+
t.message,
            Toast.LENGTH_LONG).show()
    }
}
}
}

```

- Student.kt

```

import com.google.gson.annotations.Expose
import com.google.gson.annotations.SerializedName

data class Student(
    @Expose
    @SerializedName("std_id") val std_id:String,

    @Expose
    @SerializedName("std_name") val std_name:String,

    @Expose
    @SerializedName("std_age") val std_age:String,
)

```

- StudentsAdapter.kt

```

package com.example.lab8mysql_queryinsert

import Student
import android.content.Context
import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import androidx.recyclerview.widget.RecyclerView
import com.example.lab8mysql_queryinsert.databinding.StdItemLayoutBinding

class StudentsAdapter(val studentList: ArrayList<Student>?,val context:
Context):
    RecyclerView.Adapter<StudentsAdapter.ViewHolder>() {
    class ViewHolder(view:View,val binding: StdItemLayoutBinding):

```

```

        RecyclerView.ViewHolder(view) {

        }

        override fun onCreateViewHolder(parent: ViewGroup, viewType: Int):
ViewHolder {
            val binding =
StdItemLayoutBinding.inflate(LayoutInflater.from(parent.context), parent,
false)
            return ViewHolder(binding.root, binding)
        }

        override fun onBindViewHolder(holder: ViewHolder, position: Int) {
            val binding = holder.binding

            binding.txtId.text = "ID: "+studentList!![position].std_id
            binding.txtName.text = "Name: "+studentList!![position].std_name
            binding.txtAge.text = "Age:
"+studentList!![position].std_age.toString()
        }

        override fun getItemCount(): Int {
            return studentList!!.size
        }
    }
}

```

- StudentAPI.kt

- package com.example.lab8mysql_queryinsert

```

import Student
import android.telecom.Call
import retrofit2.http.Field
import retrofit2.http.FormUrlEncoded
import retrofit2.http.GET
import retrofit2.http.POST

interface StudentAPI {
    @GET("allstd")
    fun retrieveStudent(): retrofit2.Call<List<Student>>

    @FormUrlEncoded
    @POST("std")
    fun insertStd(
        @Field("std_id") std_id:String,
        @Field("std_name") std_name:String,
        @Field("std_age") std_age: Int): retrofit2.Call<Student>
}

```

- InsertActivity.kt

```
package com.example.lab8mysql_queryinsert

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Toast
import com.example.lab8mysql_queryinsert.databinding.ActivityInsertBinding
import Student
import retrofit2.Call
import retrofit2.Callback
import retrofit2.Response
import retrofit2.Retrofit
import retrofit2.converter.gson.GsonConverterFactory

class InsertActivity : AppCompatActivity() {
    private lateinit var binding: ActivityInsertBinding

    override fun onCreate(savedInstanceState: Bundle?) {
        binding = ActivityInsertBinding.inflate(layoutInflater)
        super.onCreate(savedInstanceState)
        setContentView(binding.root)

        binding.btnAdd.setOnClickListener {
            addStudent()
        }

        binding.btnReset.setOnClickListener {
            resetStudent()
        }
    }

    fun addStudent() {
        val api: StudentAPI = Retrofit.Builder()
            .baseUrl("http://10.0.2.2:3000/")
            .addConverterFactory(GsonConverterFactory.create())
            .build()
            .create(StudentAPI::class.java)

        api.insertStd(
            binding.edtId.text.toString(),
            binding.edtName.text.toString(),
            binding.edtAge.text.toString().toInt(),
        ).enqueue(object : Callback<Student> {
            override fun onResponse(call: Call<Student>, response: Response<Student>) {
                if (response.isSuccessful()) {
                    Toast.makeText(applicationContext, "Insert Success",
                        Toast.LENGTH_LONG).show()
                    finish()
                } else {
                    Toast.makeText(applicationContext, "Insert Failed",
                        Toast.LENGTH_LONG).show()
                }
            }
        })
    }
}
```

```
    }

    override fun onFailure(call: Call<Student>, t: Throwable) {
        Toast.makeText(applicationContext, "Error onFailure",
Toast.LENGTH_LONG).show()
    }

    })
}
fun resetStudent () {
    binding.edtId.text?.clear()
    binding.edtName.text?.clear()
    binding.edtAge.text?.clear()
}
}
```