

모바일 프로그래밍 실습 보고서

학번	201411203	이름	박소영
순서	21	날짜	2018.06.07 목요일
강의자료	11 - Firebase		
주제	파이어베이스로 채팅 앱 만들기		

소스코드

java 소스코드 : MainActivity.class

```
public class LoginActivity extends AppCompatActivity {
    EditText loginEditText;

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

        init();
    }

    public void init() {
        loginEditText = (EditText) findViewById(R.id.LoginEditText);
    }

    public void btnJoin(View view) {
        String userId = loginEditText.getText().toString();

        Intent intent = new Intent(this, ChatActivity.class);
        intent.putExtra("userId", userId);
        startActivity(intent);
    }
}
```

Layout : activity_main.xml

```
<LinearLayout 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:orientation="vertical"
    android:padding="20dp"
    tools:context=".LoginActivity">

    <EditText
        android:id="@+id/loginEditText"
        android:layout_width="match_parent"
        android:layout_height="60dp" />

    <Button
        android:layout_width="match_parent"
        android:layout_height="60dp"
        android:layout_marginTop="10dp"
        android:text="JOIN"
        android:onClick="btnJoin" />

</LinearLayout>
```

java 소스코드 : ChatActivity.class

```
public class ChatActivity extends AppCompatActivity {
    ListView messageListView;
    EditText messageEditText;
    String userId;
    SimpleDateFormat timeFormat;
    ArrayList<ChatMsg> chatMessages;
    ChatListAdapter chatListAdapter;
    DatabaseReference db;

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

        init();
    }
}
```

```

public void init() {
    listView = (ListView) findViewById(R.id.messageListView);
    editText = (EditText) findViewById(R.id.messageEditText);
    userId = getIntent().getStringExtra("userId");

    chatMessages = new ArrayList<>();
    chatListAdapter = new ChatListAdapter(this,
        R.layout.row, chatMessages, userId);
    listView.setAdapter(chatListAdapter);

    timeFormat = new SimpleDateFormat("a h:m", Locale.KOREA);
    db = FirebaseDatabase.getInstance().getReference("message");

    db.addValueEventListener(new ValueEventListener() {
        @Override
        public void onDataChange(@NonNull DataSnapshot dataSnapshot) {
            // 데이터베이스의 내용이 변경된 것을 감지해 갱신된 내용을 받아온다.
            chatMessages.clear();

            for (DataSnapshot snapshot: dataSnapshot.getChildren()) {
                ChatMsg chat = snapshot.getValue(ChatMsg.class);
                /*
                 * getter와 setter에 대한 기능이 명시되어 있어야 하고,
                 * 인자가 없는 디폴트 생성자가 있어야 한다.
                 * 자동으로 product 클래스로 객체를 만들어서 반환해준다.
                 */
                chatMessages.add(chat);
            }

            chatListAdapter.notifyDataSetChanged();
            listView.setSelection(chatListAdapter.getCount()-1);
        }

        @Override
        public void onCancelled(@NonNull DatabaseError databaseError) {

        }
    });
}

public void btnSend(View view) {
    String tempMessage = editText.getText().toString();
    String time = timeFormat.format(System.currentTimeMillis());

```

```

        ChatMsg chat = new ChatMsg(userId, tempMessage, time);

        // key를 별도로 지정하지 않고 DB에서 자동으로 생성해줄도록 만든다.
        db.push().setValue(chat);
        messageEditText.setText("");
    }
}

```

Layout : activity_chat.xml

```

<LinearLayout 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:orientation="vertical" android:padding="20dp"
    tools:context=".ChatActivity">

    <ListView
        android:id="@+id/messageListView"
        android:layout_width="match_parent"
        android:layout_height="0dp" android:layout_weight="6"></ListView>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="0dp" android:layout_weight="1"
        android:orientation="horizontal"
        android:layout_marginTop="10dp"
        android:padding="5dp">
        <EditText
            android:id="@+id/messageEditText"
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="3" />
        <Button
            android:layout_width="0dp"
            android:layout_height="match_parent"
            android:layout_weight="1"
            android:text="SEND"
            android:onClick="btnSend" />
    </LinearLayout>
</LinearLayout>

```

java 소스코드 : ChatListAdapter.class

```
public class ChatListAdapter extends ArrayAdapter<ChatMsg> {
    Context context;
    ArrayList<ChatMsg> messages;
    String currentUserId;
    Boolean isMyMessage = false;

    public ChatListAdapter(@NonNull Context context, int resource, @NonNull
ArrayList<ChatMsg> objects, String currentUserId) {
        super(context, resource, objects);

        this.context = context;
        this.messages = objects;
        this.currentUserId = currentUserId;
    }

    @NonNull
    @Override
    public View getView(int position, @Nullable View v,
        @NonNull ViewGroup parent) {
        if (v == null) {
            LayoutInflater inflater = (LayoutInflater)
                context.getSystemService(Context.LAYOUT_INFLATER_SERVICE);
            v = inflater.inflate(R.layout.row, null);
        }

        ChatMsg message = messages.get(position);
        TextView messageText = (TextView) v.findViewById(R.id.msg);
        TextView messageTime = (TextView) v.findViewById(R.id.msgTime);
        messageText.setText(message.getMessage());
        messageTime.setText(message.getTime());

        LinearLayout msgContainers = (LinearLayout)
            v.findViewById(R.id.msgContainers);

        if (currentUserId.equals(message.getUserName())) {
            msgContainers.setBackground(context.getResources()
                .getDrawable(R.drawable.m_right));
            msgContainers.setGravity(Gravity.RIGHT);
        } else {
            msgContainers.setBackground(context.getResources()
                .getDrawable(R.drawable.m_Left));
        }
    }
}
```

```
        msgContainers.setGravity(Gravity.LEFT);
    }
    return v;
}
}
```

java 소스코드 : ChatMsg.class

```
public class ChatMsg {
    private String userName;    //보낸이
    private String message;    // 메시지
    private String time;        // 시간

    public ChatMsg(){}

    public ChatMsg(String userName, String message, String time){
        this.userName = userName;
        this.message = message;
        this.time = time;
    }

    public String getUserName(){
        return userName;
    }

    public void setUserName(String userName){
        this.userName = userName;
    }

    public String getMessage(){
        return message;
    }

    public void setMessage(String message){
        this.message = message;
    }

    public String getTime(){
        return time;
    }

    public void setTime(String time){
        this.time = time;
    }
}
```

Layout : row.xml

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:id="@+id/msgContainers"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <TextView
        android:id="@+id/msg"
        android:textColor="#000000"
        android:textSize="15sp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content" />

    <TextView
        android:id="@+id/msgTime"
        android:textColor="#000000"
        android:textSize="10sp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content" />
</LinearLayout>
```

실행 결과

