


```

INOL...

        // for that we need to initialize the stream sdk
with JWT Tokens...
        // AKA known as Authenticatiog with stream
SDK....

        // generating JWT Token...

        let signers = JWTSigners()
        signers.use(.hs256(key:
secretKey.data(using: .utf8!))

        // Creating Payload and inserting User ID to
generate Token..
        // Here User ID will be Firebase UID....
        // Since its Unique...

        guard let uid = Auth.auth().currentUser?.uid
else{
            return true
        }

        let payload = PayLoad(user_id: uid)

        // generating Token...
        do{

            let jwt = try signers.sign(payload)

            print(jwt)

            let config = ChatClientConfig(apiKeyString:
APIKey)

            let tokenProvider = TokenProvider.closure
{ client, completion in

                guard let token = try? Token(rawValue: jwt)
else{

                    return
                }

                completion(.success(token))
            }

            ChatClient.shared = ChatClient(config: config,
tokenProvider: tokenProvider)

ChatClient.shared.currentUserController().reloadUserI
fNeeded()

        }
        catch{
            print(error.localizedDescription)
        }
    }
}

```

```

        .alert(isPresented:
$model.showAlert, content: {

            Alert(title: Text("Message"),
message: Text(model.errorMessage),
dismissButton: .destructive(Text("Ok")),
action: {

                withAnimation{
                    model.isLoading = false
                }
            })
        })

        Text("")
        .alert(isPresented:
$streamData.error, content: {

            Alert(title: Text("Message"),
message: Text(streamData.errorMessage),
dismissButton: .destructive(Text("Ok")),
action: {

                withAnimation{
                    streamData.isLoading =
false
                }
            })
        })

        .overlay(
            ZStack{

                // New Channel View....
                if
streamData.createNewChannel{CreateNewC
hannel()}

                // Lodaing Screen...
                if model.isLoading ||
streamData.isLoading{LoadingScreen()}
            }
        )
        .environmentObject(streamData)
        .onChange(of: logStatus, perform:
{ value in
            if logStatus{
                model.newUser = false
            }
        })
    }
}

struct ContentView_Previews:
PreviewProvider {

```

```

    return true
}

func application(_ application: UIApplication,
didReceiveRemoteNotification userInfo:
[AnyHashable : Any], fetchCompletionHandler
completionHandler: @escaping
(UIBackgroundFetchResult) -> Void) {

}

}

// stream API...
extension ChatClient{
    static var shared: ChatClient!
}

```

```

static var previews: some View {
    ContentView()
}
}

```

VIEW MODEL

```

//
// LoginViewModel.swift
// Stream Tutorials
//
// Created by Balaji on 11/05/21.
//

import SwiftUI
import Firebase
import StreamChat
import JWTKit

```

```

//
// StreamViewModel.swift
// Stream Tutorials
//
// Created by Balaji on 23/03/21.
//

import SwiftUI
import StreamChat

class StreamViewModel: ObservableObject {

```

```

class LoginViewModel: ObservableObject {

    // Logi Properties...
    @Published var countryCode = ""
    @Published var phNumber = ""

    // Alert...
    @Published var showAlert = false
    @Published var errorMsg = ""

    // Verification ID
    @Published var ID = ""

    // Loading...
    @Published var isLoading = false

    @AppStorage("log_Status") var logStatus = false
    @AppStorage("userName") var storedUser = ""
    @Published var newUser = false

    func verifyUser(){

        withAnimation{isLoading = true}

        // Undo this if testing with real devices or real
        ph Numbers...

        Auth.auth().settings?.isAppVerificationDisabledForT
        esting = true

        // Sending Otp And Verifying user...

        PhoneAuthProvider.provider().verifyPhoneNumber(
        "+\{(countryCode + phNumber)", uiDelegate: nil) { ID,
        err in

            if let error = err{
                self.errorMsg = error.localizedDescription
                self.showAlert.toggle()
                return
            }

            self.ID = ID!
            self.alertWithTF()
        }

        // Alert With TextField For OTP Code...
        func alertWithTF(){

            let alert = UIAlertController(title: "Verification",
            message: "Enter OTP Code", preferredStyle: .alert)

            alert.addTextField { txt in
                txt.placeholder = "123456"
            }

```

```

    @Published var userName = ""

    @AppStorage("userName") var storedUser = ""
    @AppStorage("log_Status") var logStatus = false

    // Alert...
    @Published var error = false
    @Published var errorMsg = ""

    // Loading Screen...
    @Published var isLoading = false

    // Channel Data...
    @Published var channels :
    [ChatChannelController.ObservableObject]!

    // Create New Channel...
    @Published var createNewChannel = false
    @Published var channelName = ""

    func loginUser(){

        // Logging In User....

        withAnimation{isLoading = true}

        // Upadting User Profile...
        // you can give user image url if want....

        ChatClient.shared.currentUserController().updateUserD
        ata(name: userName, imageURL: nil,
        userExtraData: .defaultValue) { err in

            withAnimation{self.isLoading = false}

            if let error = err{
                self.errorMsg = error.localizedDescription
                self.error.toggle()
                return
            }

            // Else SUccessful...
            // storing user Name...
            self.storedUser = self.userName
            self.logStatus = true

            ChatClient.shared.currentUserController().reloadUserIfN
            eeded()

        }

        // Fetching All Channels...
        func fetchAllChannels(){

            if channels == nil

```

```

        alert.addAction(UIAlertAction(title: "Cancel",
style: .destructive, handler: nil))
        alert.addAction(UIAlertAction(title: "Ok",
style: .default, handler: { _ in

            if let code = alert.textFields?[0].text{
                self.LoginUser(code: code)
            }
            else{
                self.reportError()
            }

        })))

        // presenting Alert View...

UIApplication.shared.windows.first?.rootViewContr
oller?.present(alert, animated: true, completion: nil)
    }

    // Loggin in User...
    func LoginUser(code: String){

        let credential =
PhoneAuthProvider.provider().credential(withVerific
ationID: self.ID, verificationCode: code)

        Auth.auth().signIn(with: credential) { result, err
in
            if let error = err{
                self.errorMsg = error.localizedDescription
                self.showAlert.toggle()
                return
            }

            // user Successfully Logged In....
            print("success")

            // Verifying if user is already in stream SDK or
Not...

            // for that we need to intialize the stream sdk
with JWT Tokens...
            // AKA known as Authenticatiog with stream
SDK...

            // generating JWT Token...

            let signers = JWTSigners()
            signers.use(.hs256(key:
secretKey.data(using: .utf8)!))

            // Creating Payload and inserting Userd ID to
generate Token..
            // Here User ID will be Firebase UID....
            // Since its Unique...

```

```

        // channels -- msg
        // filter...

ChatClient.shared.currentUserController().reloadUserIfN
eeded()

        let filter =
Filter<ChannelListFilterScope>.equal("type", to:
"messaging")

        let request =
ChatClient.shared.channelListController(query: .init(filter
: filter))

        request.synchronize { (err) in
            if let error = err{
                self.errorMsg = error.localizedDescription
                self.error.toggle()
                return
            }

            DispatchQueue.main.async {

                // else Successful...
                self.channels =
request.channels.compactMap({ (channel) ->
ChatChannelController.ObservableObject? in

                    return
ChatClient.shared.channelController(for:
channel.cid).observableObject
                })
            }
        }

        // Creating New CHannel...
        func createChannel(){

            withAnimation{self.isLoading = true}

            let normalizedChannelName =
channelName.replacingOccurrences(of: " ", with: "-")

            let newChannel = ChannelId(type: .messaging, id:
normalizedChannelName)

            // you can givve image url to channel...
            // same you can also give image url to user....
            let request = try!
ChatClient.shared.channelController(createChannelWith
Id: newChannel, name: normalizedChannelName,
imageURL: nil, extraData: .defaultValue)

            request.synchronize { (err) in

```

```

guard let uid = Auth.auth().currentUser?.uid
else{
    self.reportError()
    return
}

let payload = PayLoad(user_id: uid)

// generating Token...
do{

    let jwt = try signers.sign(payload)

    print(jwt)

    let config = ChatClientConfig(apiKeyString:
APIKey)

    let tokenProvider = TokenProvider.closure
{ client, completion in

        guard let token = try? Token(rawValue:
jwt) else{
            self.reportError()
            return
        }

        completion(.success(token))
    }

    ChatClient.shared = ChatClient(config:
config, tokenProvider: tokenProvider)

    // Reloading ChatClient...

ChatClient.shared.currentUserController().reloadUs
erIfNeeded { err in

        if let _ = err{
            self.reportError()
            return
        }

        // Simple Trick to find the user is already
signed up..
        // Just Checking the user having name...
        // if yes then it means the user already
signed up..
        // else new user...

        if let name =
ChatClient.shared.currentUserController().currentUs
er?.name{

            withAnimation{
                self.storedUser = name

```

```

withAnimation{self.isLoading = false}

if let error = err{
    self.errorMsg = "Try Again Later !!!\n\nAvoid
Using Special Character like $,'%..etc\n\n
(error.localizedDescription)"
    self.error.toggle()
    return
}

// Succes....
// closing Loading And New Channle View....
self.channelName = ""
withAnimation{self.createNewChannel = false}
self.channels = nil
self.fetchAllChannels()
}
}
}
}

```

```

        self.logStatus = true
        self.isLoading = false
    }
}
else{

    withAnimation{
        self.newUser = true
        self.isLoading = false
    }
}
}
}
}
}
}
}
}

// Reporting Error...
func reportError(){
    self.errorMsg = "Please try again later !!!"
    self.showAlert.toggle()
}
}

struct Payload: JWPayload, Equatable {

    enum CodingKeys: String, CodingKey {
        case user_id
    }

    var user_id: String

    func verify(using signer: JWTSigner) throws {

    }
}
}

```

VIEWS

```

//
// ChannelView.swift
// Stream Tutorials
//
// Created by Balaji on 23/03/21.
//

import SwiftUI
import StreamChat
import Firebase

struct ChannelView: View {

    @EnvironmentObject var streamData:
StreamViewModel
    @AppStorage("userName") var storedUser = ""
    @AppStorage("log_Status") var logStatus = false

    var body: some View {

        // Channel View...
        ScrollView(.vertical, showsIndicators: false,
content: {

            VStack(spacing: 20){

                if let channels = streamData.channels{

                    ForEach(channels,id: \.channel){listner in

                        NavigationLink(
                            destination: ChatView(listner: listner),
                            label: {

                                ChannelRowView(listner: listner)
                            })
                    }
                }
                else{
                    // Progress View....
                    ProgressView()
                    .padding(.top,20)
                }
            }
            .padding()
        })
        .navigationTitle("Channel")
        // Navigation Bar Buttons....
        .toolbar(content: {

            ToolbarItem(placement: .navigationBarTrailing) {

                Button(action: {
                    streamData.channels = nil
                    streamData.fetchAllChannels()
                })
            }
        })
    }
}

```

```

//
// ChatView.swift
// Stream Tutorials
//
// Created by Balaji on 23/03/21.
//

import SwiftUI
import StreamChat

struct ChatView: View {

    // since its observing object so its automatically
observing and refreshing....
    @StateObject var listner:
ChatChannelController.ObservableObject

    //Message
    @State var message = ""

    // Color Scheme
    @Environment(\.colorScheme) var scheme

    var body: some View {

        let channel = listner.controller.channel!

        VStack{

            // scrollView Reader for Scrolling down...
            ScrollViewReader{reader in

                ScrollView(.vertical, showsIndicators: false,
content: {

                    // Lazy Stack For Lazy Loading...
                    LazyVStack(alignment: .center, spacing: 15,
content: {

                        ForEach(listner.messages.reversed(),id:
\.self){msg in

                            // Message Row...
                            MessageRowView(messsage: msg)
                        }
                    })
                    .padding()
                    .padding(.bottom,10)
                    .id("MSG_VIEW")
                })
                .onChange(of: listner.messages, perform:
{ value in

                    withAnimation{
                        reader.scrollTo("MSG_VIEW" anchor: .bottom)
                    }
                })
            }
        }
    }
}

```



```

        streamData.fetchAllChannels()
    }, label: {
        Image(systemName:
"arrow.clockwise.circle.fill")
    })
}

    ToolbarItem(placement: .navigationBarTrailing) {

        Button(action: {

withAnimation{streamData.createNewChannel.toggle()
}

        }, label: {
            Image(systemName: "square.and.pencil")
        })
    }

    ToolbarItem(placement: .navigationBarLeading)
{

        Button(action: {
            // Logging Out...
            logStatus = false
            storedUser = ""
            try! Auth.auth().signOut()
        }, label: {
            Image(systemName: "power")
        })
    }
})
.onAppear(perform: {
    streamData.fetchAllChannels()
})
}
}

struct ChannelView_Previews: PreviewProvider {
    static var previews: some View {
        ChannelView()
    }
}

// Channel Row View....
struct ChannelRowView: View {

    @StateObject var listner:
ChatChannelController.ObservableObject

    @EnvironmentObject var streamData:
StreamViewModel

    var body: some View{

        VStack(alignment: .trailing, spacing: 5, content: {

            HStack(spacing: 12){

```

```

reader.scrollTo( MSG_VIEW ,anchor: .bottom)
}
})
.onAppear(perform: {
    // scrolling to bottom...

reader.scrollTo("MSG_VIEW",anchor: .bottom)
})
}

// TextField And Send Button....
HStack(spacing: 10){

    TextField("Message", text: $message)
        .modifier(ShadowModifier())

    Button(action: sendMessage, label: {
        Image(systemName: "paperplane.fill")
        .padding(10)
        .background(Color.primary)
        .foregroundColor(scheme
== .dark ? .black : .white)
        .clipShape(Circle())
    })
    // Disabling Button when no txt typed...
    .disabled(message == "")
    .opacity(message == "" ? 0.5 : 1)
}
.padding(.horizontal)
.padding(.bottom,8)
}
.navigationTitle(channel.cid.id)
}

// sending Message...
func sendMessage(){

    // since we created a channel for messaging...

    let channelId = ChannelId(type: .messaging, id:
listner.channel?.cid.id ?? "")

    ChatClient.shared.channelController(for:
channelID).createNewMessage(text: message){result in

        switch result{

            case .success(let id):
                print("success = \(id)")

            case .failure(let error):
                // show error...
                print(error.localizedDescription)
            }
        }
    }

//clearing Msg Field...

```

```

let channel = listner.controller.channel!

Circle()
    .fill(Color.gray.opacity(0.4))
    .frame(width: 55, height: 55)
    .overlay(

        // First Letter as Image...
        Text("\(String(channel.cid.id.first!))")
            .font(.title)
            .fontWeight(.semibold)
            .foregroundColor(.primary)
    )

VStack(alignment: .leading, spacing: 8,
content: {
    Text(channel.cid.id)
        .fontWeight(.semibold)
        .foregroundColor(.primary)

    // Last Msg...
    if let lastMsg = channel.latestMessages.first{

        // showing the last user name...
        (

            Text(lastMsg.isSentByCurrentUser ?
"Me: " : "\(lastMsg.author.id): ")

            +

            Text(lastMsg.text)
        )
        .font(.caption)
        .foregroundColor(.gray)
        .lineLimit(1)

    }
})

Spacer(minLength: 10)

// Time...
if let time =
channel.latestMessages.first?.createdAt{
    Text(time,style: checkIsDateToday(date:
time) ? .time : .date)
        .font(.caption2)
        .foregroundColor(.gray)
    }
}
.frame(maxWidth: .infinity, alignment: .leading)

Divider()
    .padding(.leading,60)
}
}

```

```

message = ""
}
}

struct ChatView_Previews: PreviewProvider {
    static var previews: some View {
        ContentView()
    }
}

```

```

    ''
    .onAppear(perform: {
        // watching the updates on channel..
        listner.controller.synchronize()
    })
    .onChange(of:
listner.controller.channel?.latestMessages.first?.text,
perform: { value in
    // firing sort...
    print("sort channels...")
    sortChannels()
    })
}

// checking if msg is from today then display time
else display date...
func checkIsDateToday(date: Date)->Bool{

    let calender = Calendar.current

    if calender.isDateInToday(date){
        return true
    }
    else{
        return false
    }
}

func sortChannels(){

    let result = streamData.channels.sorted { (ch1,
ch2) -> Bool in

        if let date1 =
ch1.channel?.latestMessages.first?.createdAt{

            if let date2 =
ch2.channel?.latestMessages.first?.createdAt{

                return date1 > date2
            }
            else{
                return false
            }
        }
        else{
            return false
        }
    }

    streamData.channels = result
}
}

```

```
//
// ChatBubble.swift
// Stream Tutorials
//
// Created by Balaji on
24/03/21.
//

import SwiftUI

struct ChatBubble: Shape {

    var corners: UIRectCorner

    func path(in rect:
CGRect) -> Path {

        let path =
UIBezierPath(roundedRect:
rect, byRoundingCorners:
corners, cornerRadii:
CGSize(width: 13, height:
13))

        return
Path(path.cgPath)
    }
}
```

```
//
// CreateNewChannel.swift
// Stream Tutorials
//
// Created by Balaji on 23/03/21.
//

import SwiftUI

struct CreateNewChannel: View {
    @EnvironmentObject var streamData:
StreamViewModel
    @Environment(\.colorScheme) var scheme
    var body: some View {

        VStack(alignment: .leading, spacing: 15,
content: {

            Text("Create New Channel")
                .font(.title2)
                .fontWeight(.bold)

            TextField("iJustine", text:
$streamData.channelName)
                .autocapitalization(.none)
                .disableAutocorrection(true)
                .modifier(ShadowModifier())

            // Button...
            Button(action:
streamData.createChannel, label: {
                Text("Create Channel")
                    .padding(.vertical,10)
                    .frame(maxWidth: .infinity,
alignment: .center)
                    .background(Color.primary)
                    .foregroundColor(scheme
== .dark ? .black : .white)
                    .cornerRadius(8)
            })
                .padding(.top,10)
                .disabled(streamData.channelName
== "")
                .opacity(streamData.channelName ==
"" ? 0.5 : 1)
            })
                .padding()
                .background(scheme == .dark ?
Color.black : Color.white)
                .cornerRadius(12)
                .padding(.horizontal,35)
                .frame(maxWidth: .infinity,
maxHeight: .infinity)
                .background(Color.primary.opacity(0.2).i
gnoresSafeArea().onTapGesture {
                    streamData.channelName = ""
                })
        })
    }
}
```

```
//
// LoadingScreen.swift
// Stream Tutorials
//
// Created by Balaji on 23/03/21.
//

import SwiftUI

struct LoadingScreen: View {
    @Environment(\.colorScheme)
var colorScheme
    var body: some View {

        ZStack{

            Color.primary
                .opacity(0.2)
                .ignoresSafeArea()

            ProgressView()
                .frame(width: 50, height:
50)
                .background(colorScheme
== .dark ? Color.black : Color.white)
                .cornerRadius(8)
        }
    }
}

struct LoadingScreen_Previews:
PreviewProvider {
    static var previews: some View {
        LoadingScreen()
    }
}
```



```

Button(action:
streamData.loginUser, label: {
    HStack{
        Spacer()
        Text("Login")
        Spacer()
        Image(systemName:
"arrow.right")
        .padding(.vertical,10)
        .padding(.horizontal)
        .background(Color.prim
ary)
        .foregroundColor(colorS
cheme == .dark ? .black : .white)
        .cornerRadius(5)
    })
    .padding(.top,20)
    .disabled(streamData.user
Name == "")
    .opacity(streamData.user
Name == "" ? 0.5 : 1)
    Spacer()
    }
    .padding()
}
}

struct Login_Previews:
PreviewProvider {
    static var previews: some View
    {
        ContentView()
    }
}

// Creating a Modifier For
Shadow so that it can be used
for some other views...

struct ShadowModifier:
ViewModifier {

    // changing based on
ColorScheme

@Environment(\.colorScheme)
var colorScheme

func body(content: Content) ->

```

```

// msg from chat system...
VStack(alignment:
message.isSentByCurrentUser ? .trailing : .
leading, spacing: 6, content: {
    Text(message.text)
    Text(message.createdAt,style: .time)
        .font(.caption)
    })
    .padding([.horizontal,.top])
    .padding(.bottom,8)
    // Current User color is blue and
opposite user color is gray...
    .background(message.isSentByCu
rrentUser ? Color.blue :
Color.gray.opacity(0.4))
    .clipShape(ChatBubble(corners:
message.isSentByCurrentUser ?
[.topLeft,.topRight,.bottomLeft] :
[.topLeft,.topRight,.bottomRight]))
    .foregroundColor(message.isSent
ByCurrentUser ? .white : .primary)
    .frame(width:
UIScreen.main.bounds.width -
150,alignment:
message.isSentByCurrentUser ? .trailing : .
leading)

    if message.isSentByCurrentUser{
        UserView(message: message)
        .offset(y: 10.0)
    }
}

if !message.isSentByCurrentUser{
    Spacer()
}
}

// User View...

struct UserView: View {

    var message: ChatMessage

    var body: some View{
        Circle()
        .fill(message.isSentByCurrentUser ?
Color.blue : Color.gray.opacity(0.4))
        .frame(width: 40, height: 40)
        .overlay{

```

```

RoundedRectangle(cornerRadius:
8)
        .stroke(model.cou
ntryCode == "" ? Color.gray :
Color("pink"),lineWidth: 1.5)
    )
    TextField("123456789",
text: $model.phoneNumber)
        .keyboardType(.numb
erPad)
        .padding(.vertical,12)
        .padding(.horizontal)
        .background(
RoundedRectangle(cornerRadius:
8)
        .stroke(model.ph
Number == "" ? Color.gray :
Color("pink"),lineWidth: 1.5)
    )
    }
    .padding(.top,20)

    Button(action:
model.verifyUser, label: {
        Text("Login")
        .fontWeight(.bold)
        .foregroundColor(.whit
e)
        .padding(.vertical,12)
        .frame(maxWidth: .infi
nity)
        .background(Color("pi
nk"))
        .cornerRadius(8)
    })
    .disabled(model.countryCo
de == "" || model.phoneNumber ==
"")
    .opacity(model.countryCod
e == "" || model.phoneNumber ==
"" ? 0.6 : 1)
    .padding(.top,20)

    Spacer()
    }
    .padding()
}
}

struct OtpLogin_Previews:
PreviewProvider {
    static var previews: some View
    {

```

```
some View {
```

```
  return content
```

```
    .padding(.vertical,10)
```

```
    .padding(.horizontal)
```

```
    .background(colorScheme
```

```
    != .dark ? Color.white :
```

```
    Color.black)
```

```
    .cornerRadius(8)
```

```
    .clipped()
```

```
    .shadow(color:
```

```
    Color.primary.opacity(0.04),
```

```
    radius: 5, x: 5, y: 5)
```

```
    .shadow(color:
```

```
    Color.primary.opacity(0.04),
```

```
    radius: 5, x: -5, y: -5)
```

```
  }
```

```
}
```

```
  // Author First Letter...
```

```
  Text("\(String(message.author.id.first!))")
```

```
    .fontWeight(.semibold)
```

```
    .foregroundColor(message.isSe
```

```
ntByCurrentUser ? .white : .primary)
```

```
  )
```

```
  // COntext Menu For Showing User
```

```
Name And Last Active Status...
```

```
  .contextMenu(menuItems: {
```

```
    Text("\(message.author.id)")
```

```
    if message.author.isOnline{
```

```
      Text("Status: Online")
```

```
    }
```

```
    else{
```

```
    Text(message.author.lastActiveAt ??
```

```
    Date(),style: .time)
```

```
  }
```

```
  })
```

```
  }
```

```
}
```

```
  UtpLogin()
```

```
  }
```

```
}
```