

ITU REGIONAL DFS SECURITY CLINIC SEOUL

# Application Development Requirement

Wan Ameer Ruzman, Manager Application DevOps



# AGENDA

1. Objective
2. Infrastructure Information
3. Sandbox Registration
4. Registration Process
5. BSA Processes
6. Deployment Approaches & Each Architectures
7. Authentication Process
8. Onboarding Requirement
9. Onboarding Screen Flow
10. Summary
11. Resource Information



## BSA SANDBOX OBJECTIVE

- To provide a test infrastructure environment that will enable Regulators, Partners, Academia, Private and Public Institutions, customers and technology players to experiment Passwordless BSA services products in a live controlled environment with predefined testing duration.

# BSA SANDBOX INFRASTRUCTURE

- Deployed to provide Regulators, Developers, Academia and Private companies to test FNSValue Blockchain Passwordless Authentication (BSA) technology
- Requester of the BSA Sandbox will be provided with the following resources
  - Client Key and API Server URL for Development Integration
  - Web SDK Documentation – For Requester’s Guideline on Web Application development integration with BSA Web SDK
  - Mobile SDK Documentation – For Requester’s Guideline on Mobile Native Application development integration with BSA Mobile Native SDK
  - BSA Sandbox Authenticator App – Android and iOS (Standard Authentication App)
  - Other’s Resource Documentation – BSA Sandbox App Manual Guide, Demo Application, FCM Setup & Configuration
- No Server provisioning is provided. Requesters are to develop the integration in their own private development area

# BSA SANDBOX REGISTRATION PROCESS

**Reach out to us and join our Sandbox today**

- Log into systems and applications within seconds
- Protect access anywhere, anytime, any place, even from internal threats
- Stop phishing, fraud, and account takeover
- Fast deployment across web and mobile platforms

Fill out the form and you'll be able to test passwordless technology on your own applications and see how it works in real-time.

Don't take our word for it - try it yourself.

**Contact Us**

First name \* Last name \*

Phone \* Business Email \*

Position \* Company \*

Industry \*  
Choose an option

Country \*  
Country

Intended Use \*  
Request for BSA Sandbox

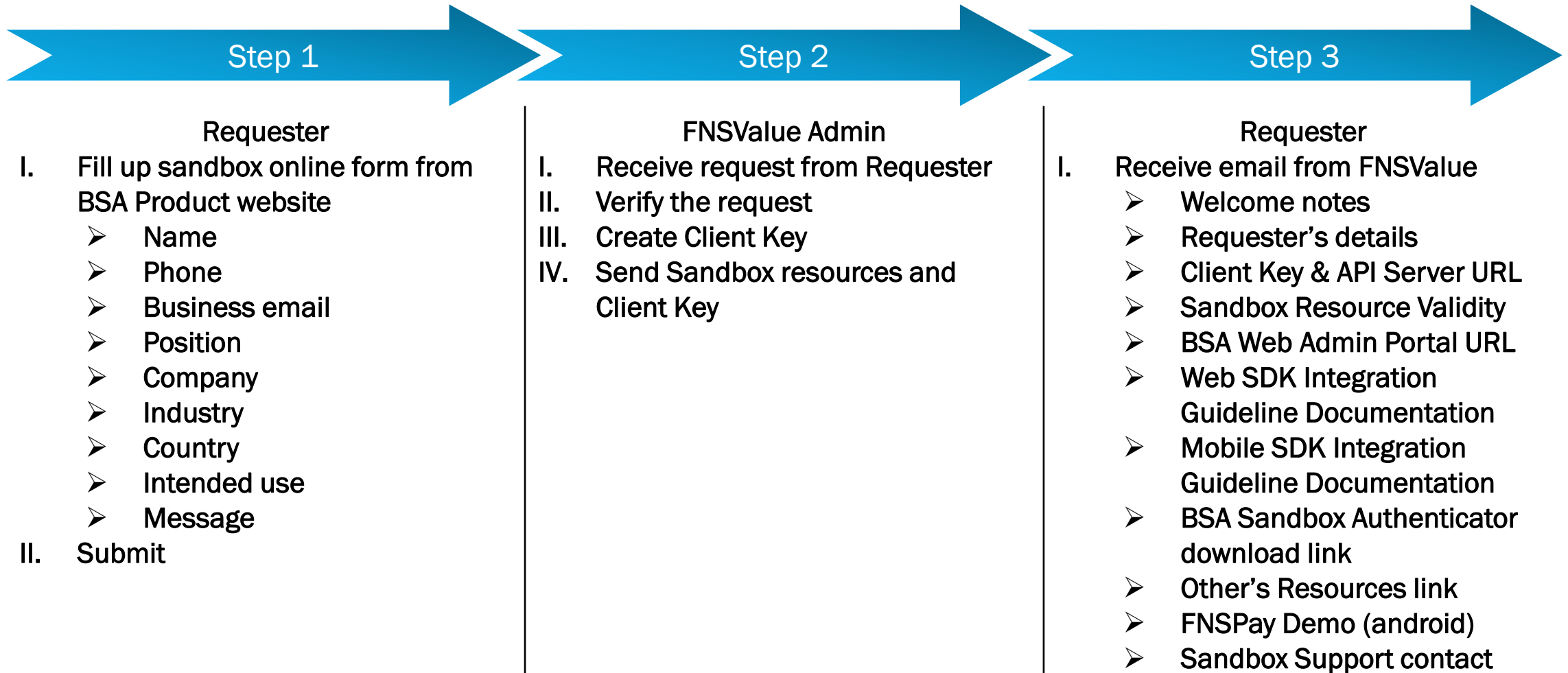
Message \*  
Please include as much detail as possible

I agree to receive other communications from fnsbsa.com

Registration for BSA Sandbox Resource access can be done through our website : <https://www.fnsbsa.com/sandbox>

Request will be filtered and verified before approval

# BSA SANDBOX REGISTRATION PROCESS



# BSA SOFTWARE COMPONENTS



Web Application



BSA Web SDK



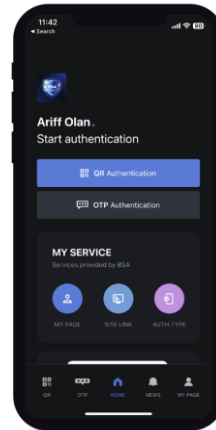
Mobile Application

Requester Application



BSA Mobile SDK

SDK for Integration



BSA Authenticator App

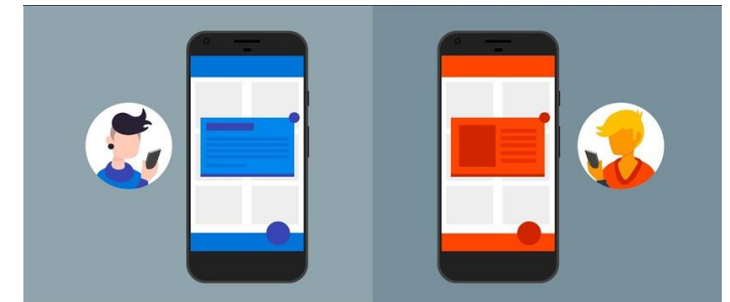
BSA standard Authenticator



BSA KNCHAIN HYBRID ENGINE



Database



Firebase In-App Messaging

# BSA SANDBOX SOFTWARE COMPONENTS AND PROCESSES

- The general components for BSA Passwordless Integration
  1. Requester's Application – Web or/and Mobile Application to be integrated with BSA SDK
  2. BSA Authenticator – BSA Sandbox App or Requester White Label integrated with BSA Mobile SDK
  3. Integration development work– Actual development work on Requester's Application for integration with BSA Web SDK or/and BSA Mobile SDK
  4. User Onboarding Process– Register User, Register Device and Site Link on Mobile App ( User and Device registration and application Site link in BSA Sandbox App or Requester White Label integrated with BSA Mobile SDK )



# BSA SANDBOX PASSWORDLESS APPLICATION INTEGRATION DEPLOYMENT APPROACHES

## 1. For Web Application Only:



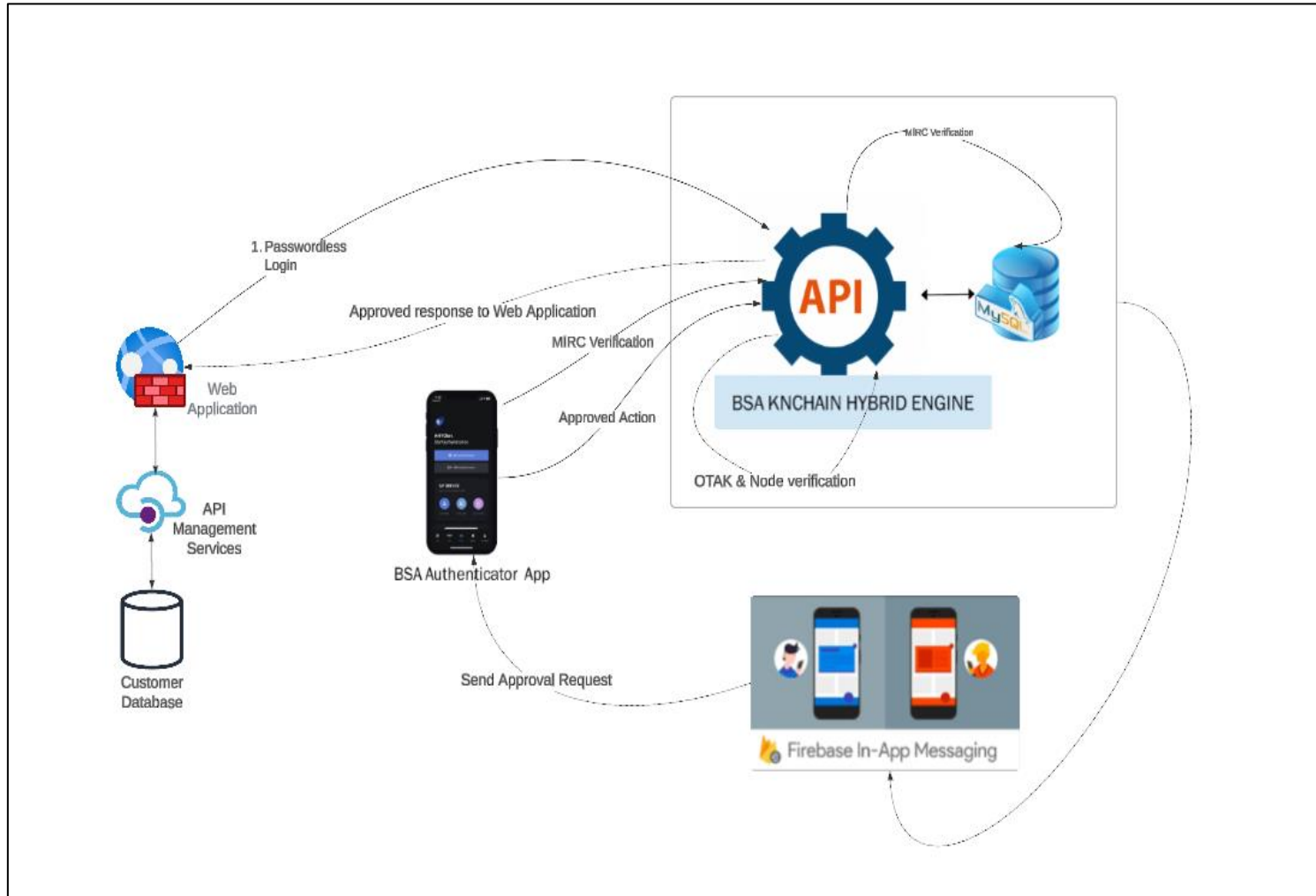
Digital Banking X  
(Web Application with BSA Web SDK)

+

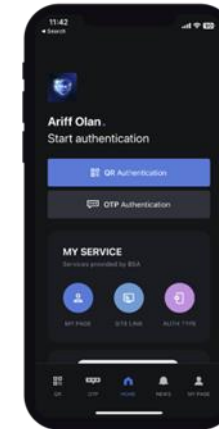


BSA Authenticator

# BSA SANDBOX ARCHITECTURE – WEB APPLICATION ONLY

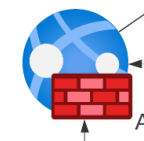


## USER ONBOARDING – BSA App



1. User to download BSA App
2. User onboarding on BSA App
3. Device registration on BSA App
4. Users to Site Link Web Applications in BSA App
5. BSA Database Update

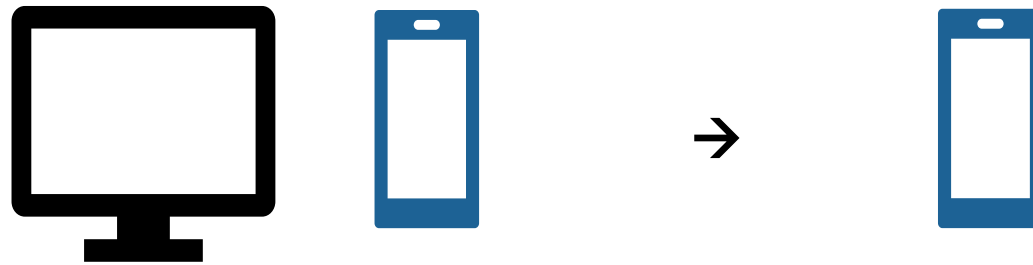
## SYSTEM ONBOARDING



1. Web Application enhancement with BSA Web SDK

# BSA SANDBOX PASSWORDLESS APPLICATION INTEGRATION DEPLOYMENT APPROACHES

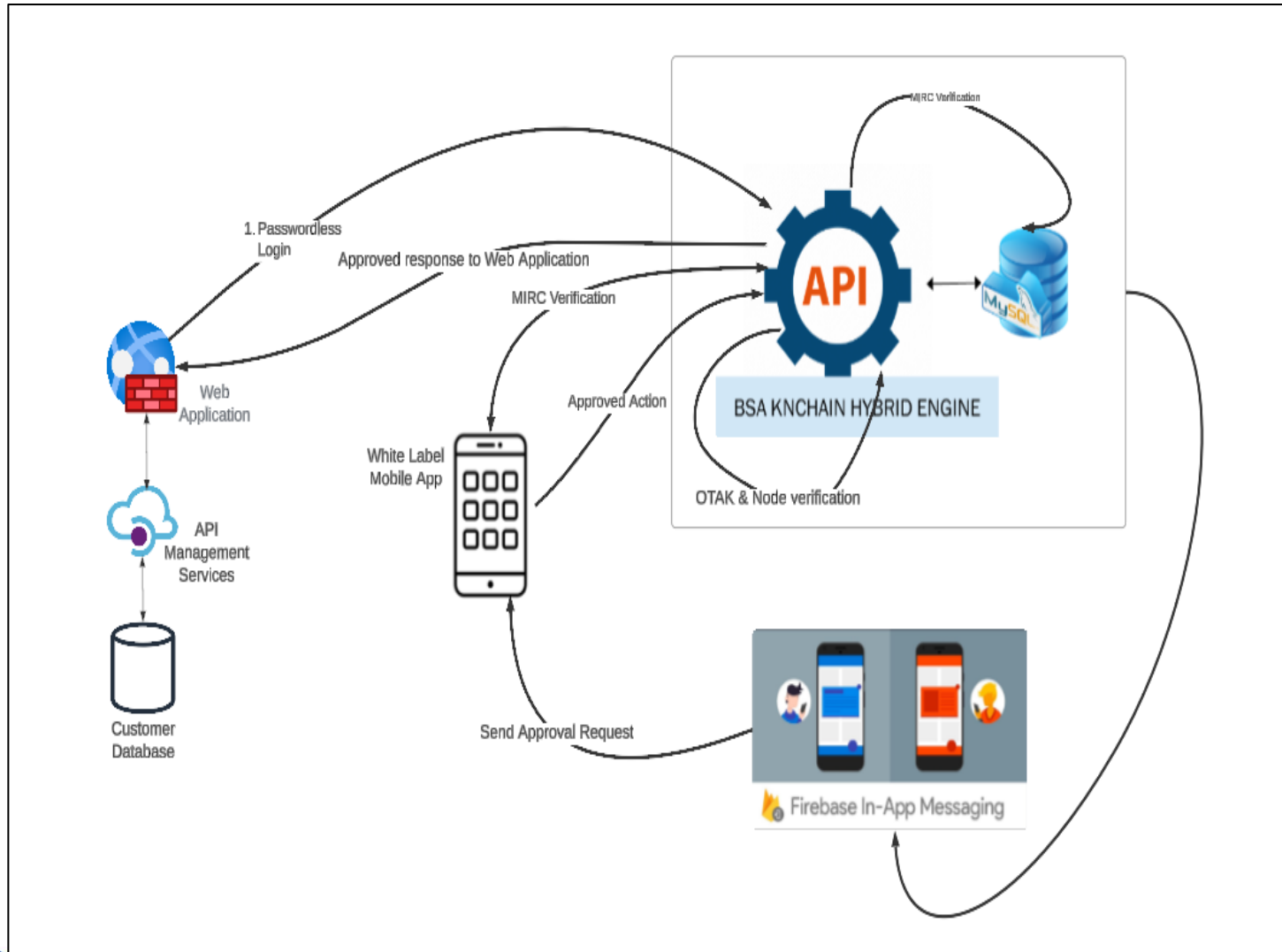
2. For Web Application and Mobile Application:



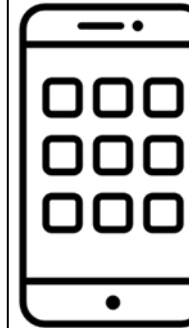
Digital Banking X  
(Web Application with BSA Web SDK and  
Mobile Application with BSA Mobile SDK)

Mobile Application  
(Integrate with BSA Mobile SDK)

# BSA SANDBOX ARCHITECTURE – WEB AND MOBILE APPLICATION

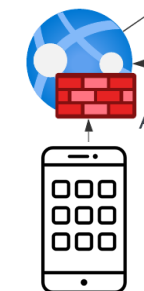


## USER ONBOARDING – White Label Mobile App



1. User to download White Label App
2. User BSA onboarding on White Label App
3. Device registration on White Label App
4. Users to Site Link Web Applications in White Label App / or Mobile App specific for Web Application
5. BSA Database Update

## SYSTEM ONBOARDING



1. Web Application enhancement with BSA Web SDK
2. White Label App enhancement with BSA Mobile SDK

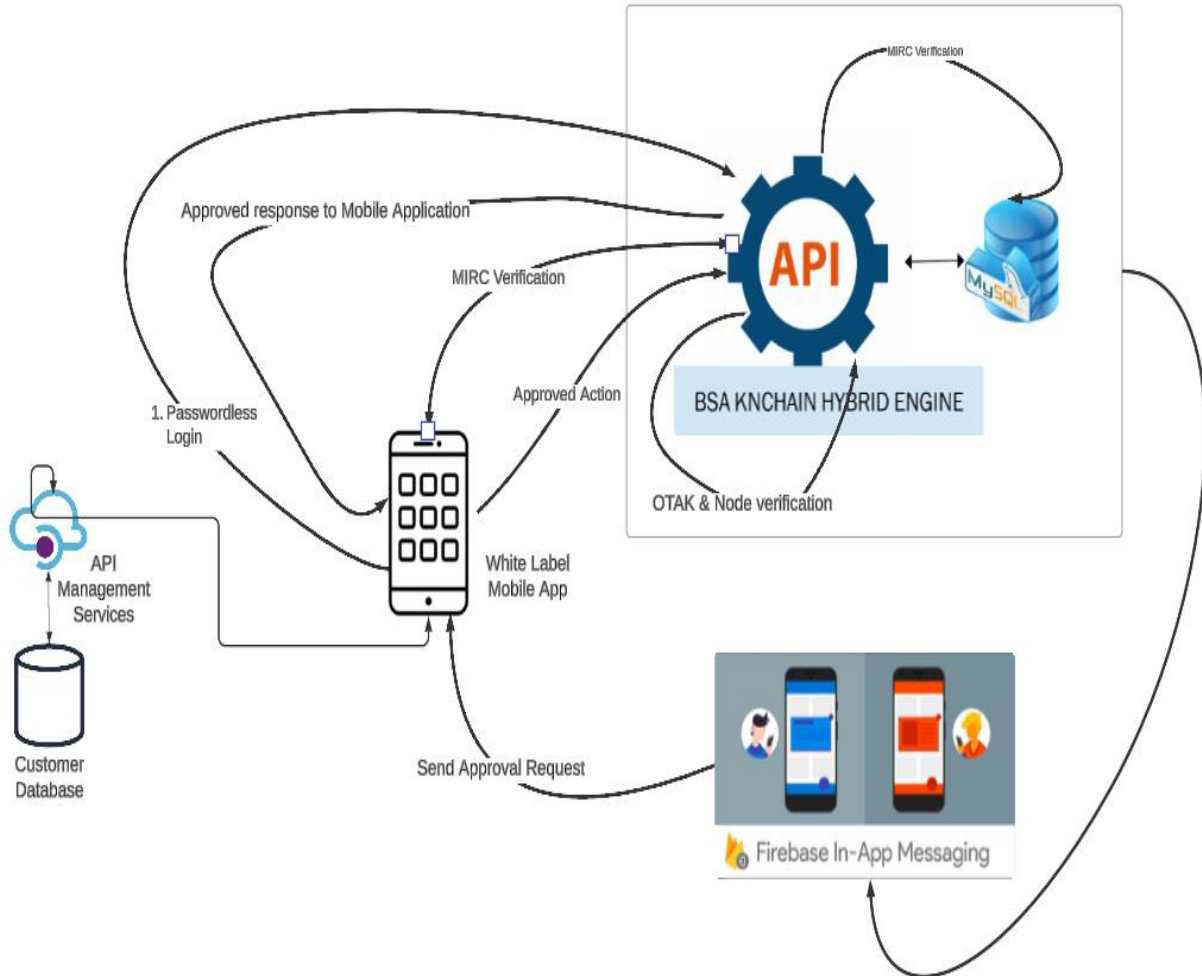
# BSA SANDBOX PASSWORDLESS APPLICATION INTEGRATION DEPLOYMENT APPROACHES

3. For Mobile Application Only:

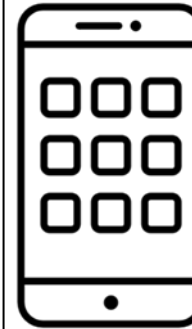


Digital Banking X  
(Mobile Application with BSA Mobile SDK)

# BSA SANDBOX ARCHITECTURE – MOBILE APPLICATION ONLY

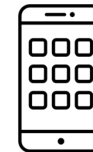


## USER ONBOARDING – White Label Mobile App



1. User to download White Label App
2. User BSA onboarding on White Label App
3. Device registration on White Label App
4. No Site Link Required
5. BSA Database Update

## SYSTEM ONBOARDING



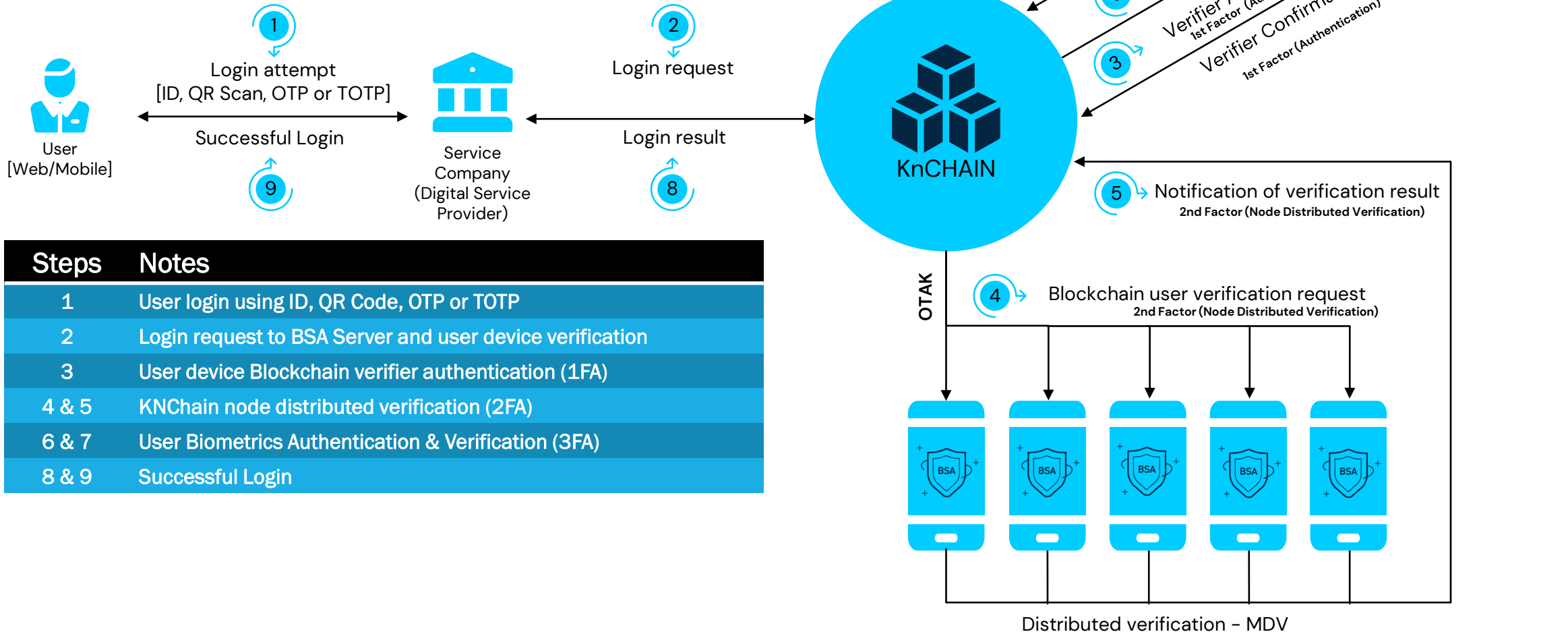
1. White Label App enhancement with BSA Mobile SDK

# BSA SANDBOX PASSWORDLESS APPLICATION INTEGRATION DEPLOYMENT APPROACHES

No	Deployment Type	Integration	Authenticator	User Onboarding	Device Register	Site Link
1	Web Application only	BSA Web SDK	BSA Sandbox Authenticator	BSA Sandbox Authenticator	BSA Sandbox Authenticator	Web Application URL in BSA Sandbox Authenticator
2	Web and Mobile Application	<ul style="list-style-type: none"> <li>BSA Web SDK for Web Application</li> <li>BSA Mobile SDK for White Label Mobile App</li> </ul>	White Label Mobile App integrated with BSA SDK	White Label Mobile App integrated with BSA SDK	White Label Mobile App integrated with BSA SDK	Web Application URL in White Label Mobile App with BSA SDK
3	Mobile Application only	BSA Mobile SDK for White Label Mobile App	White Label Mobile App integrated with BSA SDK	White Label Mobile App integrated with BSA SDK	White Label Mobile App integrated with BSA SDK	N/A

# BSA AUTHENTICATION PROCESS

Authentication Process from Step 1 to 5 : within 3 seconds guaranteed



Steps	Notes
1	User login using ID, QR Code, OTP or TOTP
2	Login request to BSA Server and user device verification
3	User device Blockchain verifier authentication (1FA)
4 & 5	KNChain node distributed verification (2FA)
6 & 7	User Biometrics Authentication & Verification (3FA)
8 & 9	Successful Login

Distributed verification - MDV



# BSA ONBOARDING PROCESS

## 1. USER ONBOARDING

### Register User for BSA:

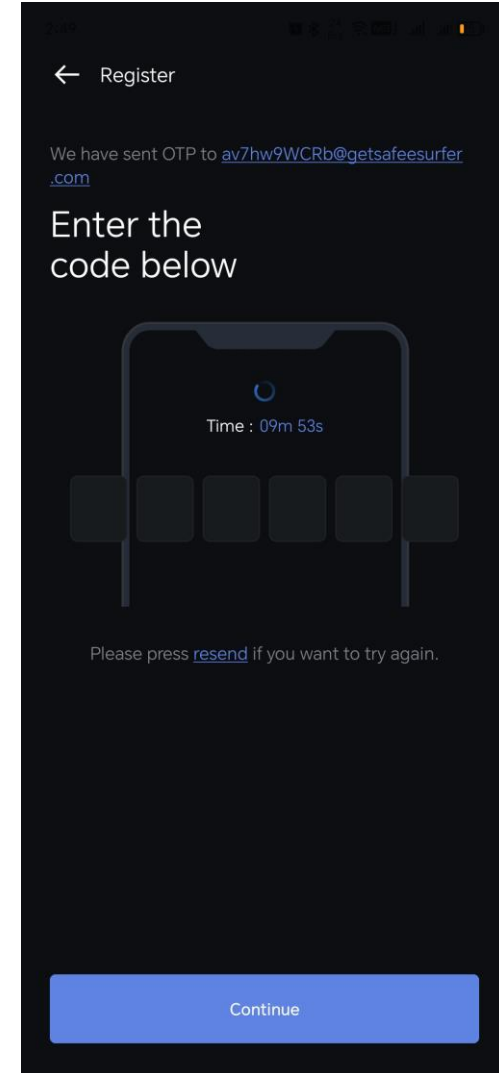
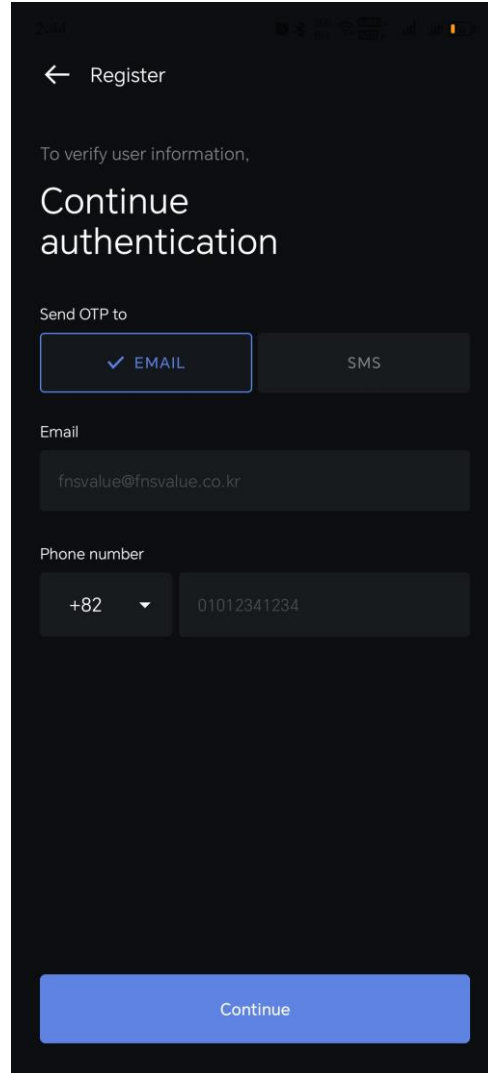
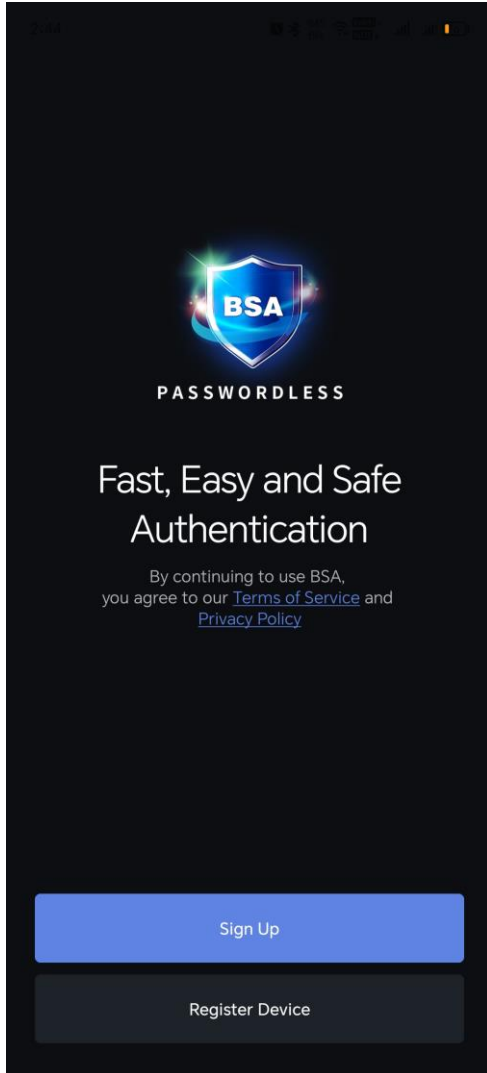
1. User to download BSA App or Requester Mobile App(@BSA Auth) for User and Device information registration.
2. Users to Site Link Web Applications in Authenticator App - BSA App or Requester Mobile App(@BSA Auth)
  - (User to approve Login request when prompted in User Mobile Device)

## 2. SYSTEM ONBOARDING

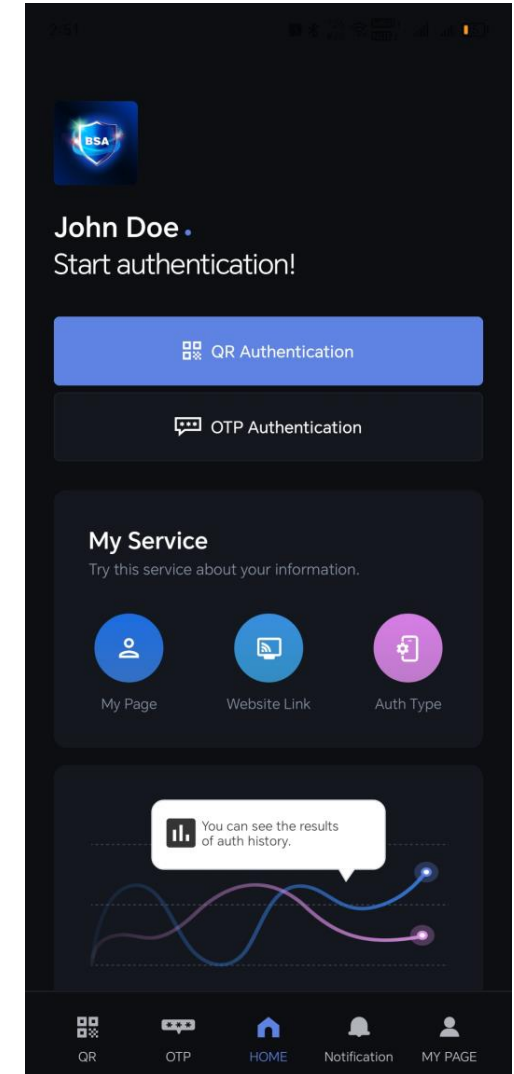
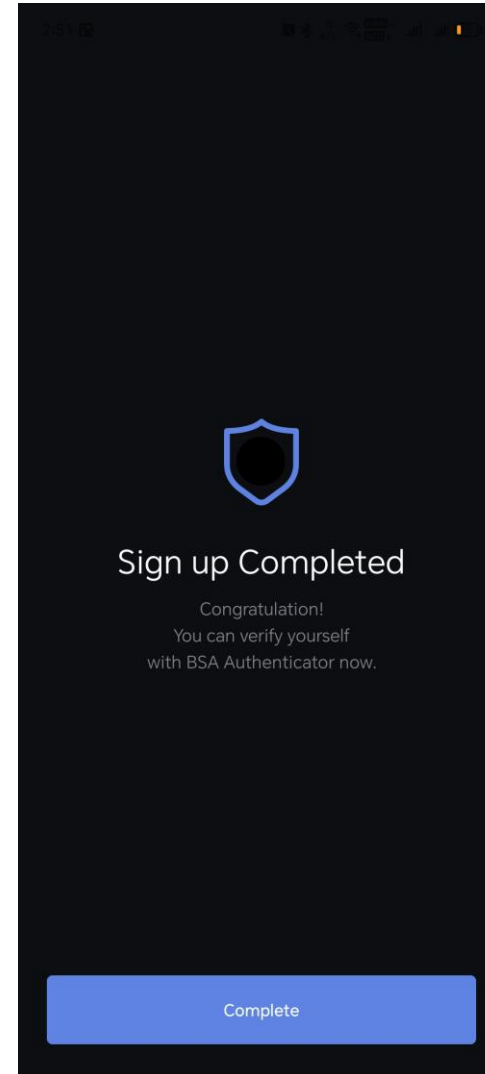
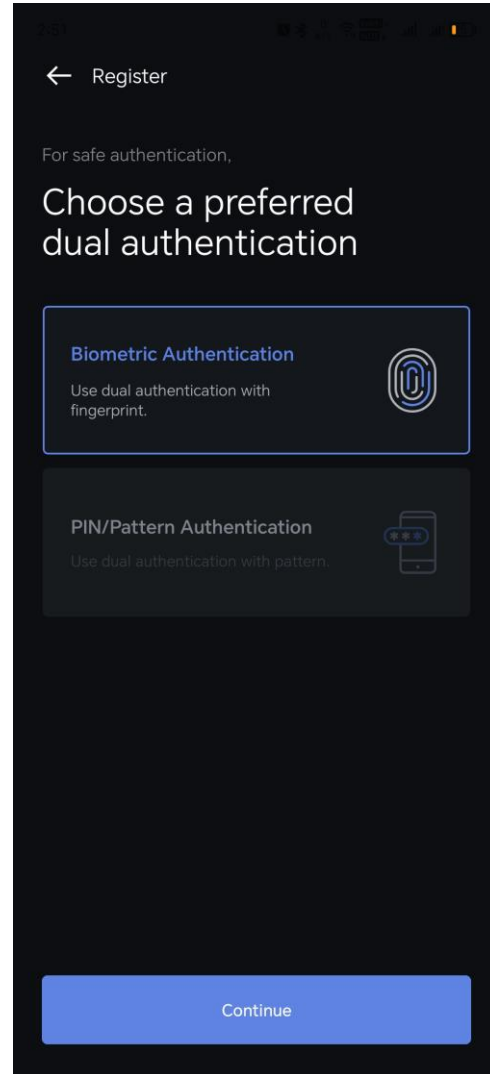
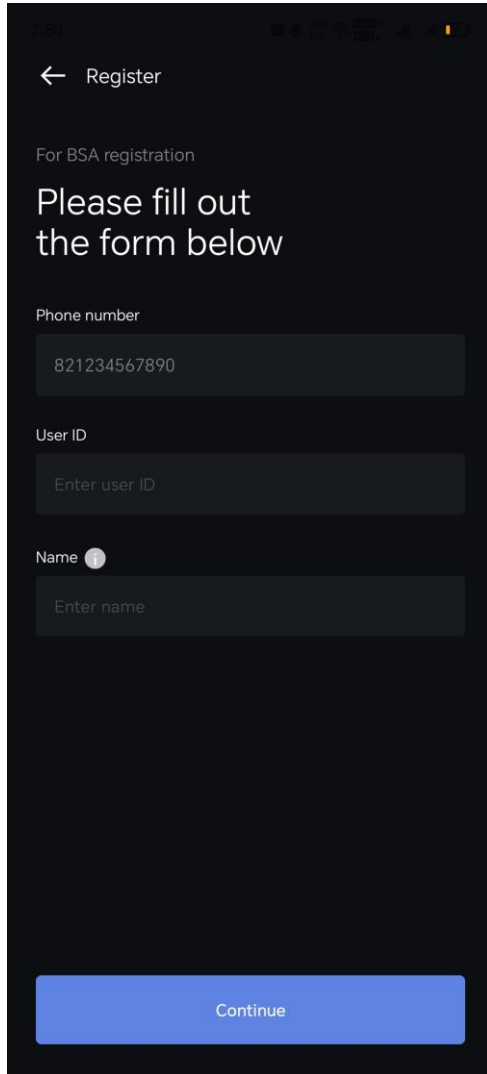
### System Integration

1. Requester Web Application – development to integrate with BSA Web SDK for Passwordless login.
2. Requester Mobile Application – development to integration with BSA Mobile SDK for BSA Onboarding, Passwordless Login, Authentication Approval / Reject)

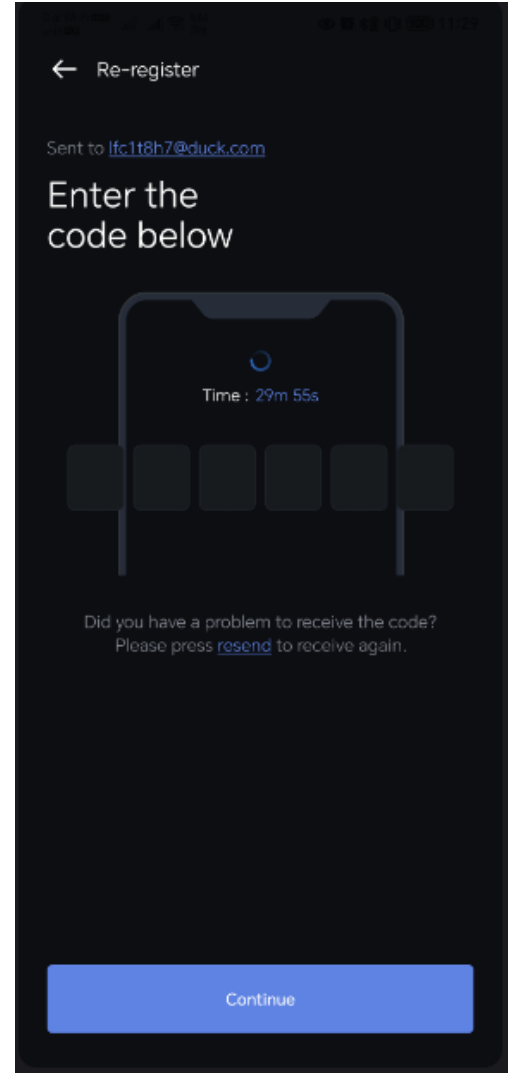
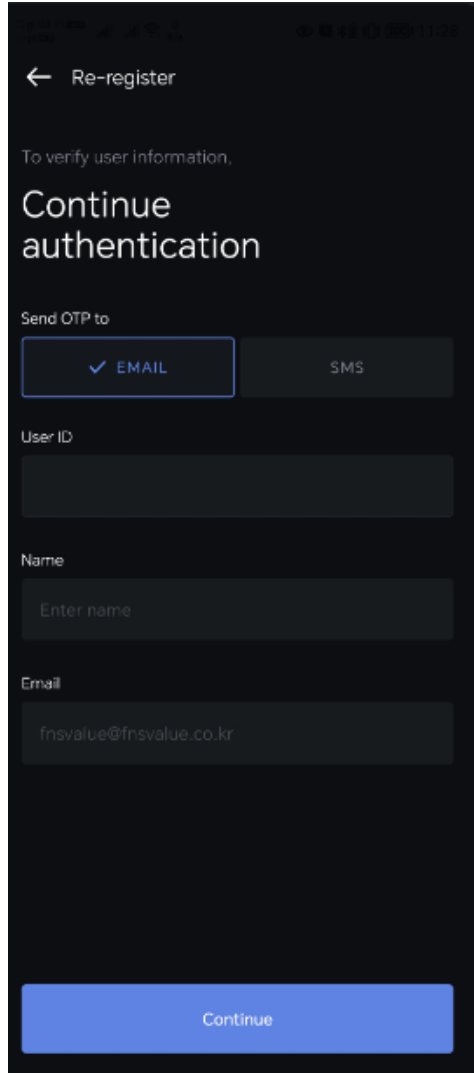
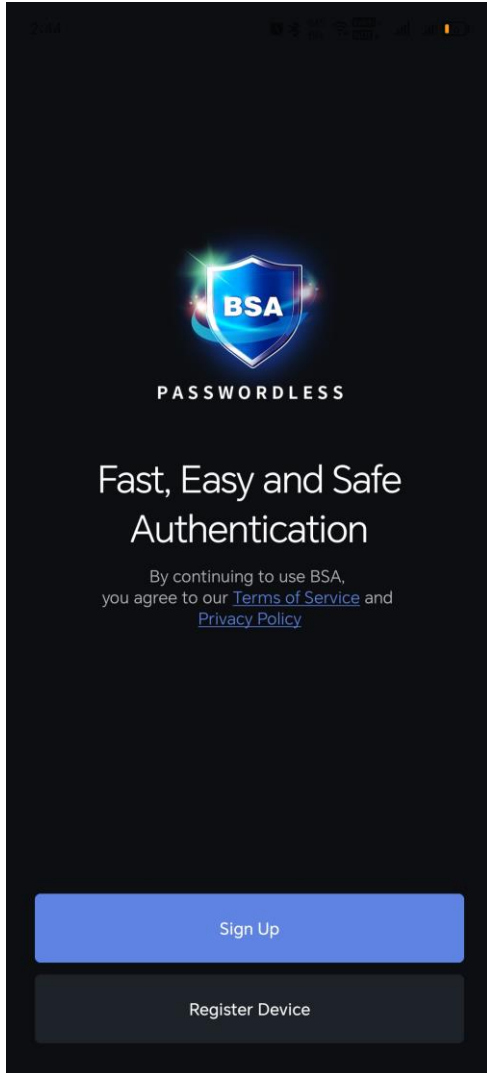
# BSA SANDBOX USER ONBOARDING – USER REGISTRATION



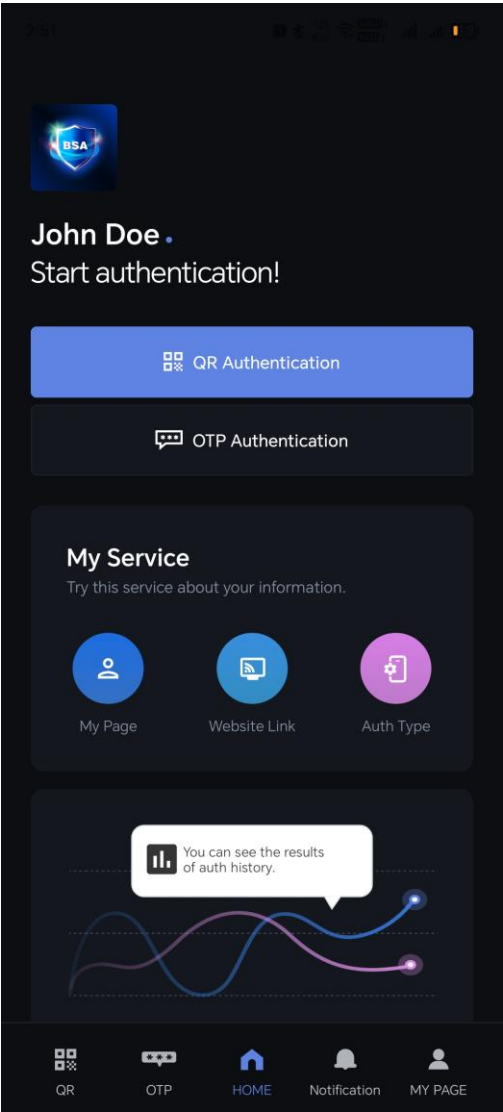
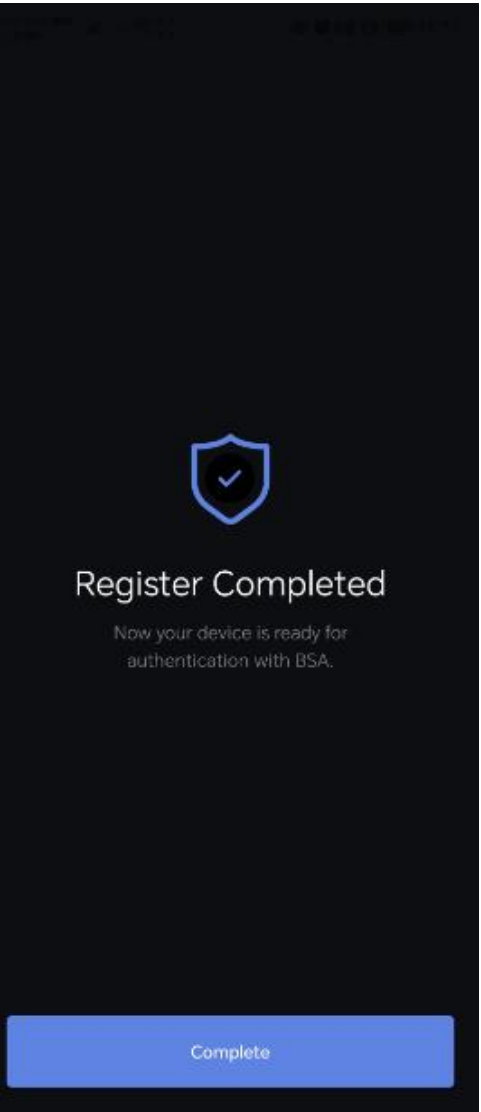
# BSA SANDBOX USER ONBOARDING – USER REGISTRATION



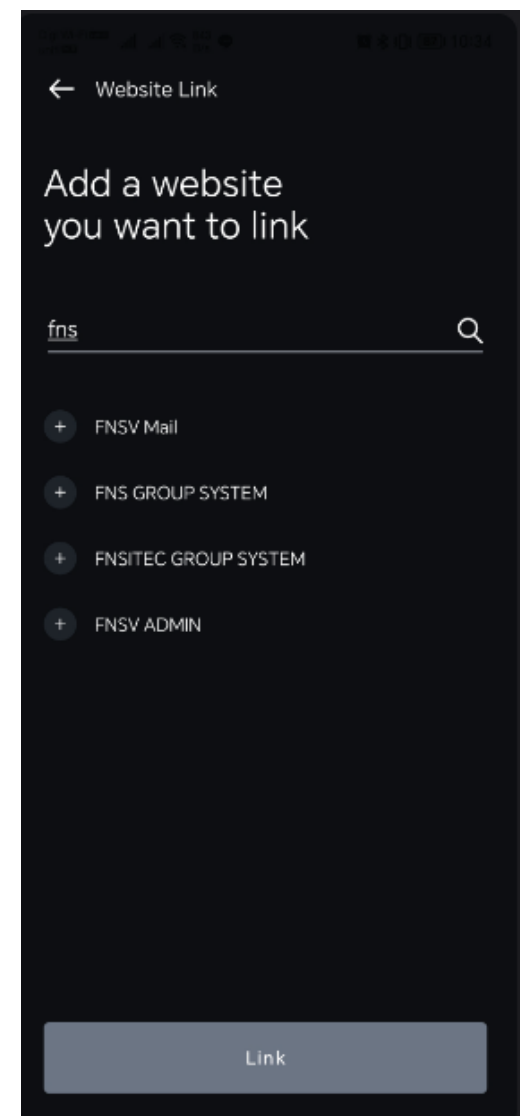
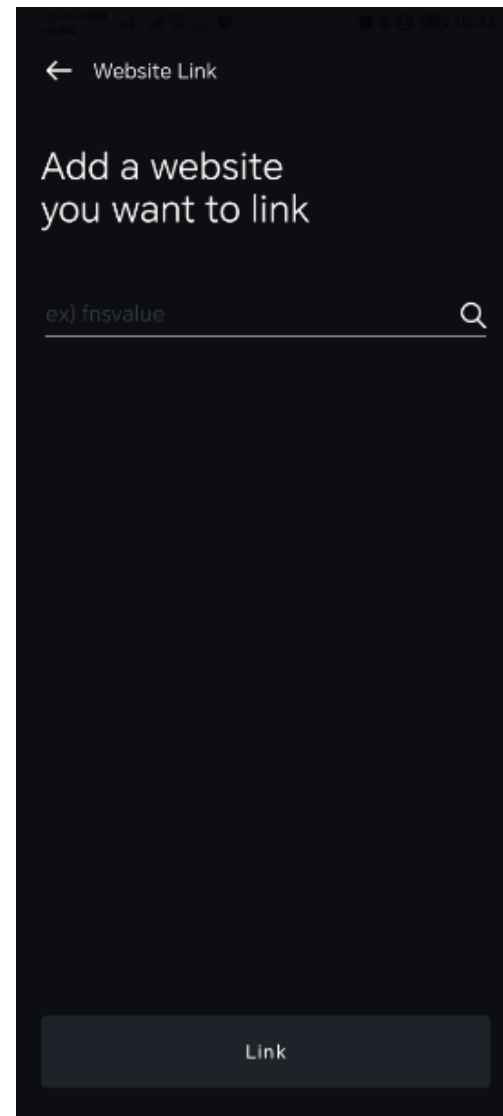
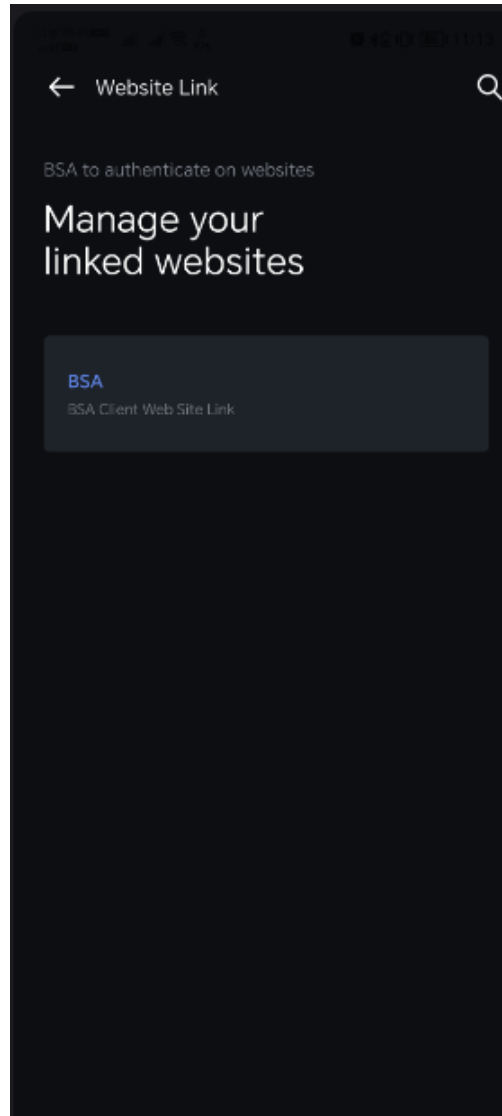
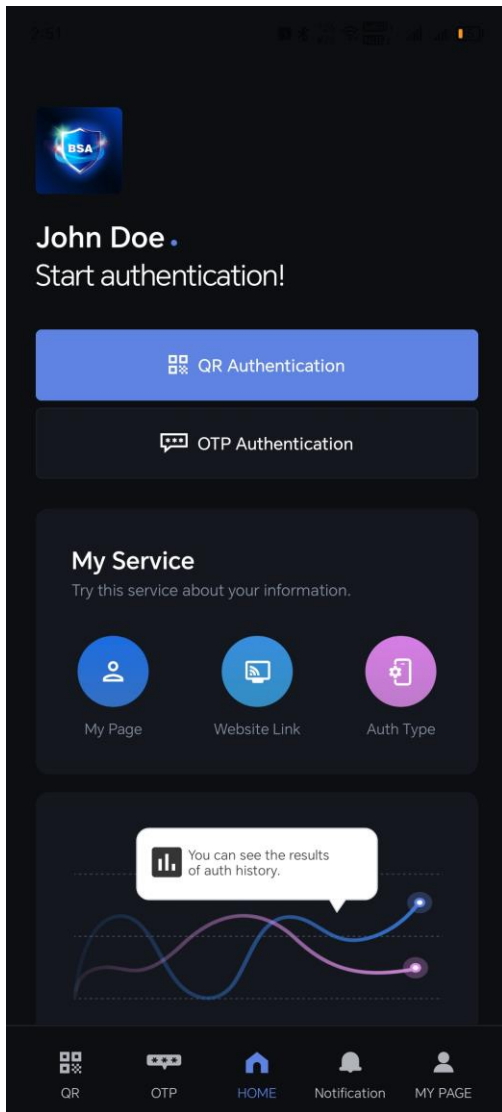
# BSA SANDBOX USER ONBOARDING – DEVICE REGISTRATION



# BSA SANDBOX USER ONBOARDING – DEVICE REGISTRATION



# BSA SANDBOX USER ONBOARDING – WEBSITE LINK



# BSA SANDBOX APPLICATION REQUIREMENT SUMMARY

No	Client Key	Deployment Type	Integration	Authenticator	User Onboarding	Device Register	Site Link
1.	Required	Web Application only	BSA Web SDK	BSA Sandbox Authenticator	BSA Sandbox Authenticator	BSA Sandbox Authenticator	Web Application URL in BSA Sandbox Authenticator
2.	Required	Web and Mobile Application	<ul style="list-style-type: none"> <li>BSA Web SDK for Web Application</li> <li>BSA Mobile SDK for White Label Mobile App</li> </ul>	White Label Mobile App with BSA SDK	White Label Mobile App with BSA SDK	White Label Mobile App with BSA SDK	Web Application URL in White Label Mobile App with BSA SDK
3.	Required	Mobile Application only	BSA Mobile SDK for White Label Mobile App	White Label Mobile App with BSA SDK	White Label Mobile App with BSA SDK	White Label Mobile App with BSA SDK	N/A

# BSA SANDBOX RESOURCE INFORMATION [IF BY FNSBSA]

No.	Resources	Link	Description
1.	Web SDK	<a href="https://resourceaz.fnsbsa.com/bsa-sandbox/resources/bsa-web-sdk/bsa-web-sdk-latest.js">https://resourceaz.fnsbsa.com/bsa-sandbox/resources/bsa-web-sdk/bsa-web-sdk-latest.js</a>	BSA Web SDK download link
2.	BSA Sandbox Authenticator	<a href="https://resourceaz.fnsbsa.com/bsa-sandbox/resources/04-SB-Authenticator.apk">https://resourceaz.fnsbsa.com/bsa-sandbox/resources/04-SB-Authenticator.apk</a> [Android] <a href="https://apps.apple.com/us/app/bsa-sandbox/id6451237527">https://apps.apple.com/us/app/bsa-sandbox/id6451237527</a> [iOS]	BSA Sandbox Authenticator for both aOS and iOS download link for testing or act as mobile authenticator
3.	Sandbox Registration	<a href="https://www.fnsbsa.com/sandbox">https://www.fnsbsa.com/sandbox</a>	For registration BSA Sandbox
4.	Sandbox Developer Portal (For all documentations development)	<a href="https://developer.fnsbsa.com/">https://developer.fnsbsa.com/</a>	Documentations as reference of Sandbox Development
5.	Sandbox Support Email	<a href="mailto:support.my@fnsvalue.co.kr">support.my@fnsvalue.co.kr</a>	To contact Sandbox Support if require any assistance



# Thank you

Head Office +82-2-303-3885  
7th floor, 396, World cup buk-ro Mapo-gu  
Seoul, Republic of Korea <https://www.fnsvalue.co.kr>

Malaysia Branch +603-7732-6027  
3-3A, Oval Damansara. Jalan Damansara.  
Taman Tun Dr. Ismail, 60000 Kuala Lumpur, Malaysia  
<http://fnsmalaysia.com>

