

## NextAD: Profile Management Integration App

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### PROBLEM

- ❖ Currently in NextCloud, there is a lack of applications that interact with a user's Active Directory server configurations beyond establishing a connection.
- ❖ With the ever-growing number of users using Active Directory, we needed a NextCloud application that can sync into a user's attribute editor and preview or update them.
- ❖ NextAD seeks to solve these impediments by creating a friendly interface by allowing NextCloud to communicate to Active Directory using the LDAP protocol.

### CURRENT SYSTEM

The current version of NextAD has several functions. They are as follows:

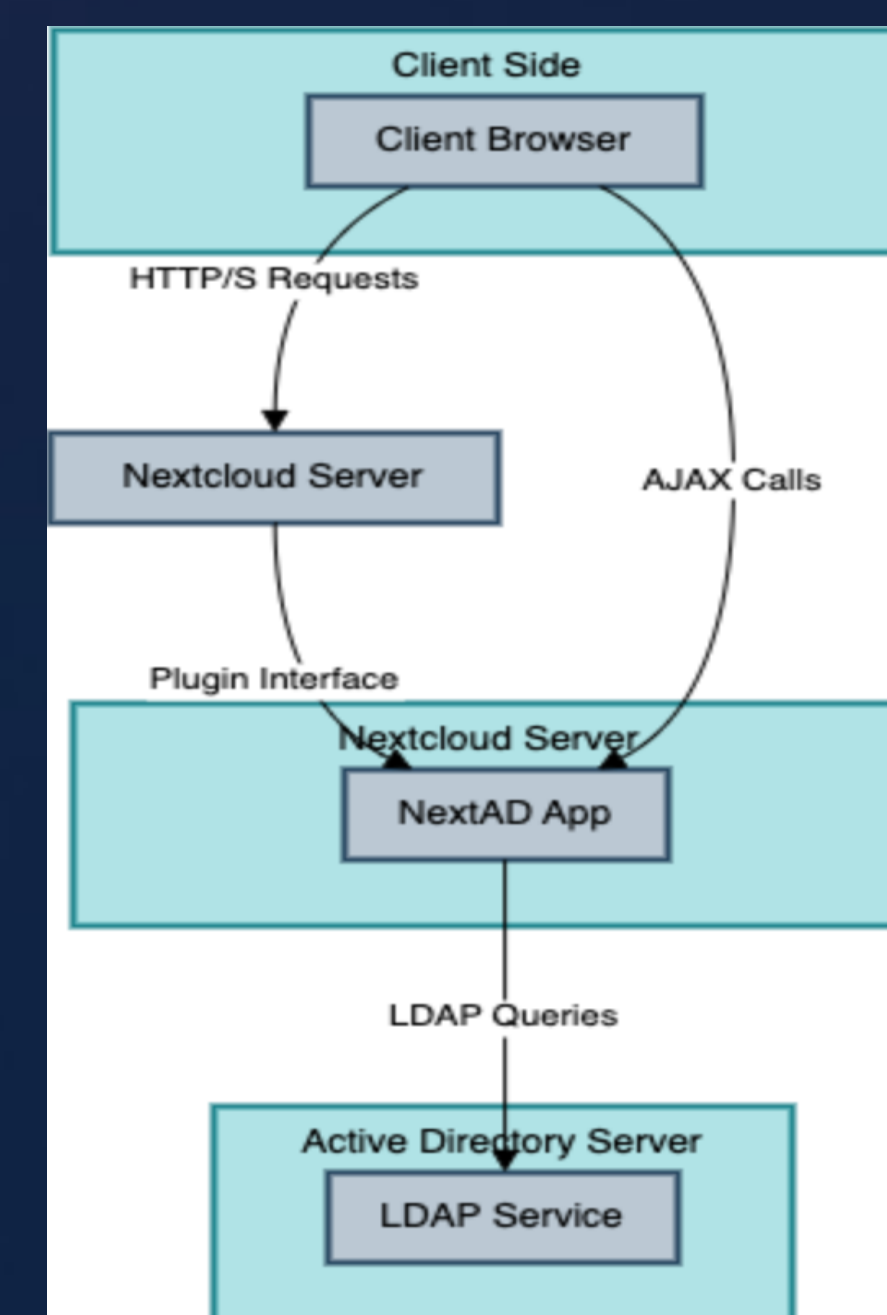
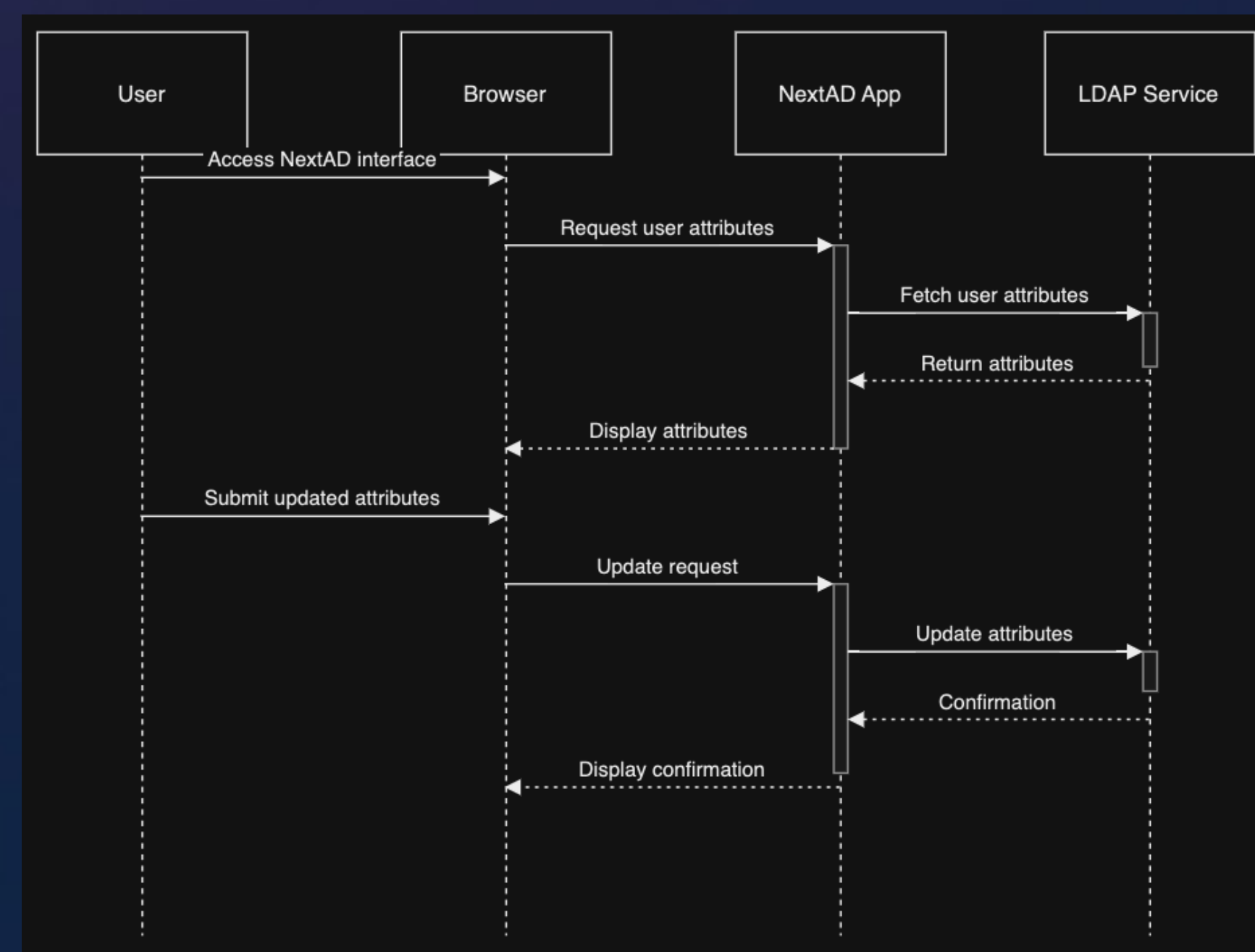
- Automatic Active Directory user recognition by user ID (UID) of logged in account
- Allows request to preview Active Directory user attributes
- Lets users modify Active Directory attributes in real time
- You can wipe clean all attribute settings before they are confirmed in Active Directory

### REQUIREMENTS

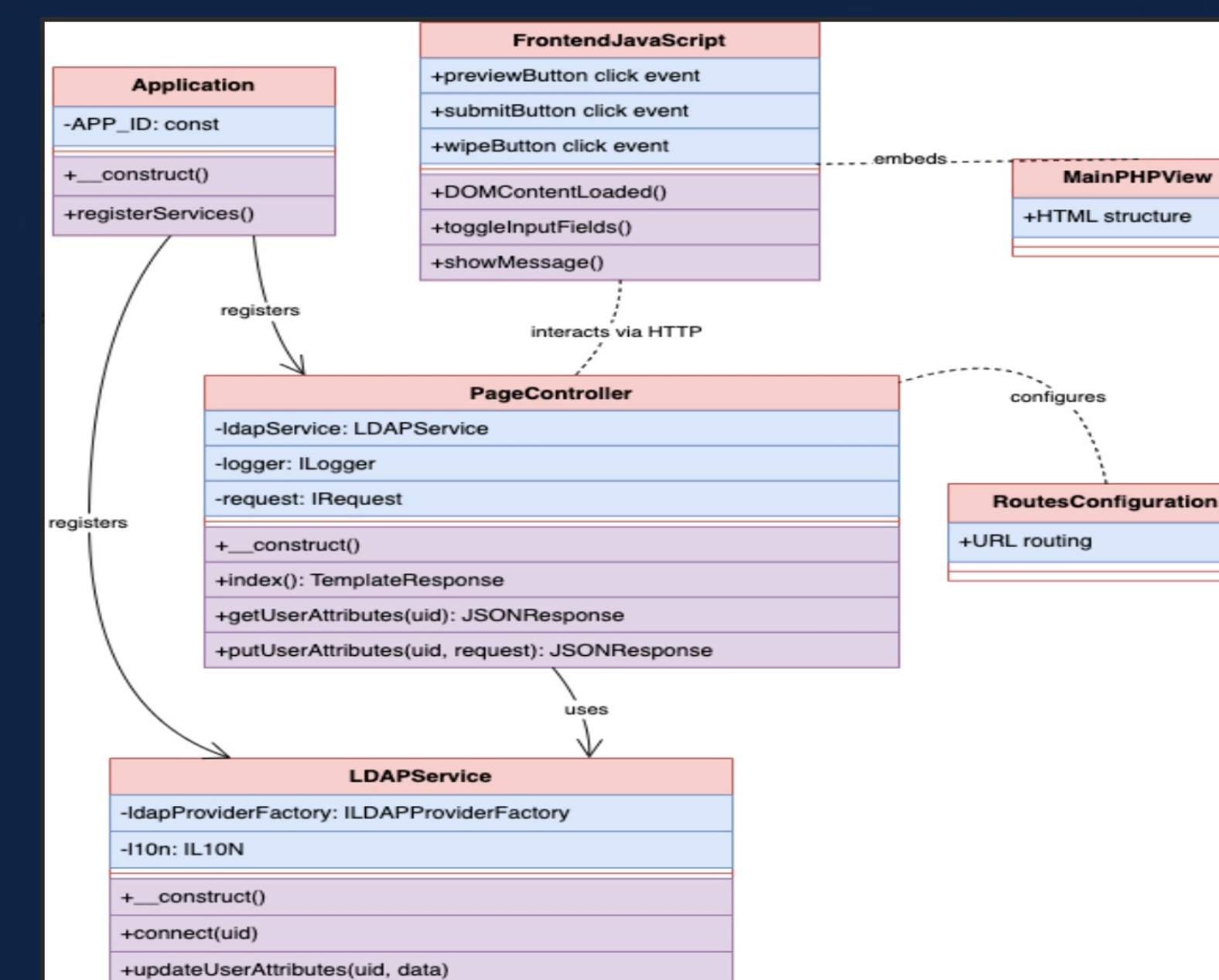
Throughout NextAD's development there were a couple requirements that we had to follow, namely...

1. **Local Environment:** We needed to have a working Active Directory Server Manager in a Windows server. To achieve this, we had to use a local VirtualBox, though we tried to connect to a cloud-based virtual machine using Azure.
2. **Test Users:** We needed to create new test users and assign them arbitrary attributes to test previewing and setting AD attributes

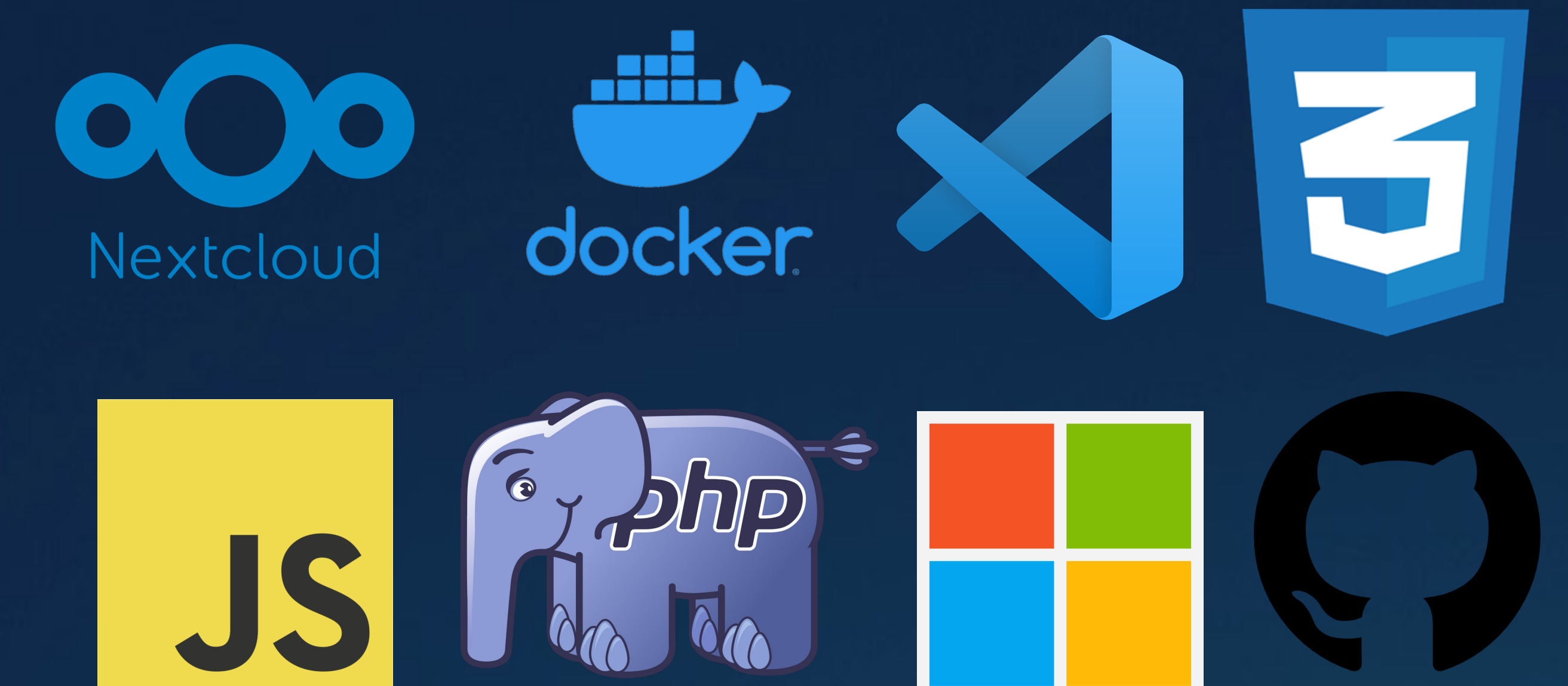
### SYSTEM DESIGN



### OBJECT DESIGN



### IMPLEMENTATION



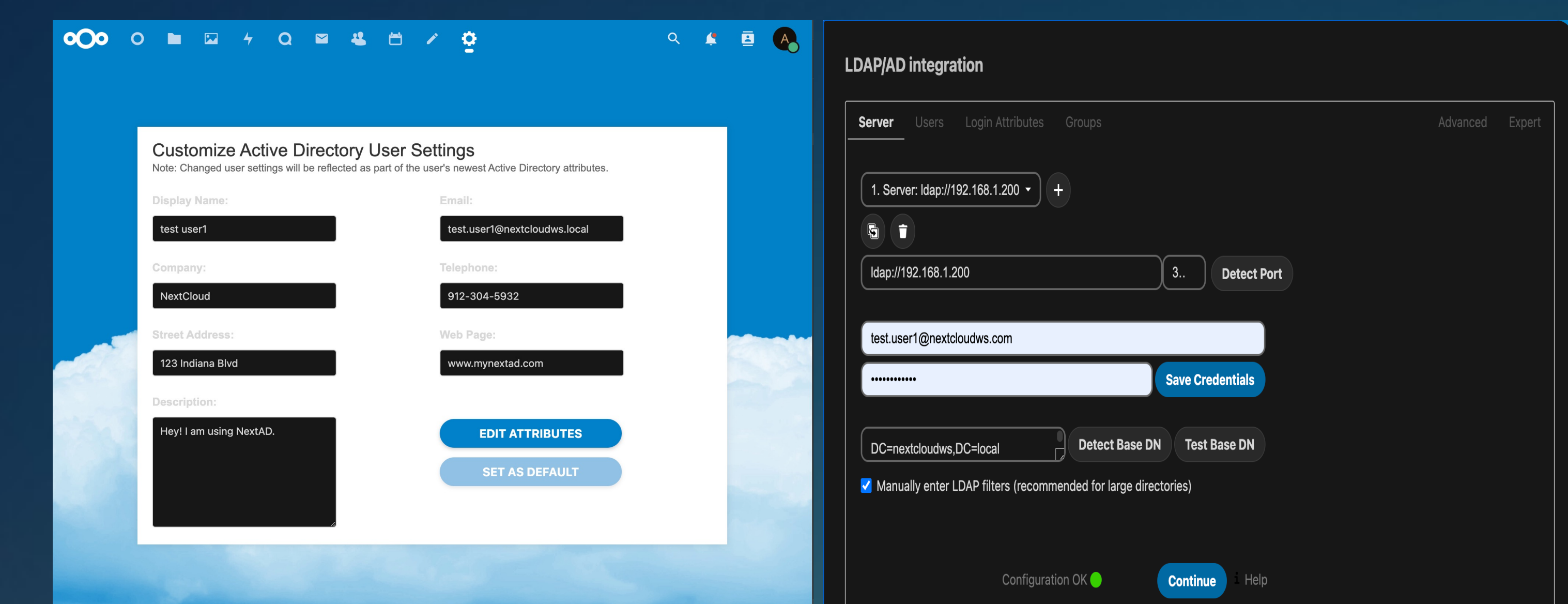
### VERIFICATION

Active Directory verification for each user was achieved through NextCloud's LDAP administration settings. Passing the client and base DN in the LDAP settings, we were able to establish a connection with the Active Directory server and execute LDAP queries for NextCloud to recognize each user. This allows users to login using their Active Directory credentials through NextCloud to use the NextAD app. It is essential for NextCloud to recognize the AD client as NextAD fetches their user ID once they start using the app.

### SUMMARY

NextAD is an app that taps into a user's Active Directory attribute settings by establishing an LDAP connection in NextCloud using the user's credentials. The core of the app uses fetch APIs to simulate a request to Active Directory to preview or update user attributes. We use the built-in LDAPProvider NextCloud class to establish a connection with the service and route the API requests in the PageController.php class of the application.

### SCREENSHOTS



### ACKNOWLEDGEMENT

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