Ganpat University
॥ विद्यया समाजोत्कर्षः ॥
Institute of Computer Technology

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Sub: CS(Cloud Security)
Branch: CBA
Batch:71

----------PRACTICAL 11----------

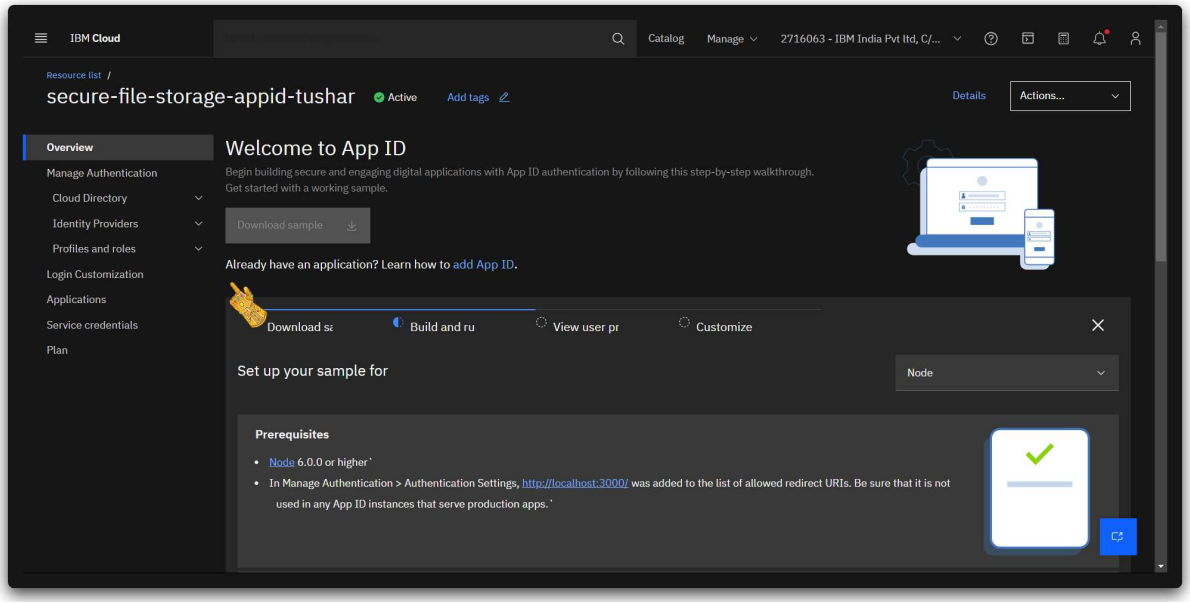
You are developing a Node.js web application that requires user authentication and management. You want to implement the following features:

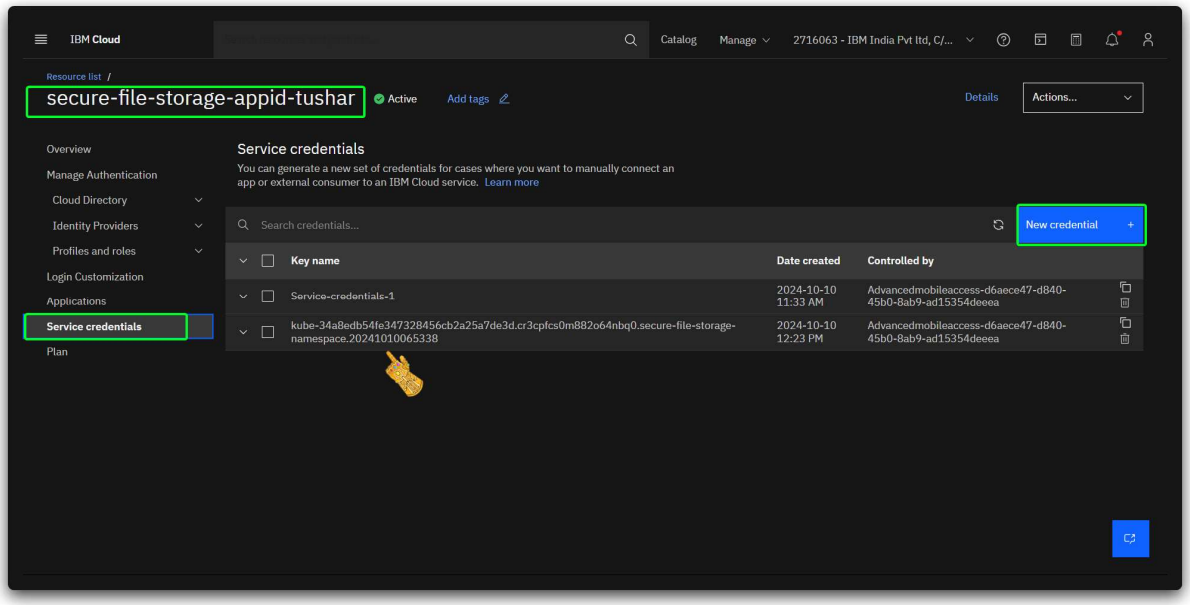
1. **Password Policies:** Enforce strong password requirements and password policies for users signing up.

2. **Custom Email Templates:** Send customized email notifications for actions such as signup, password reset, and email verification.

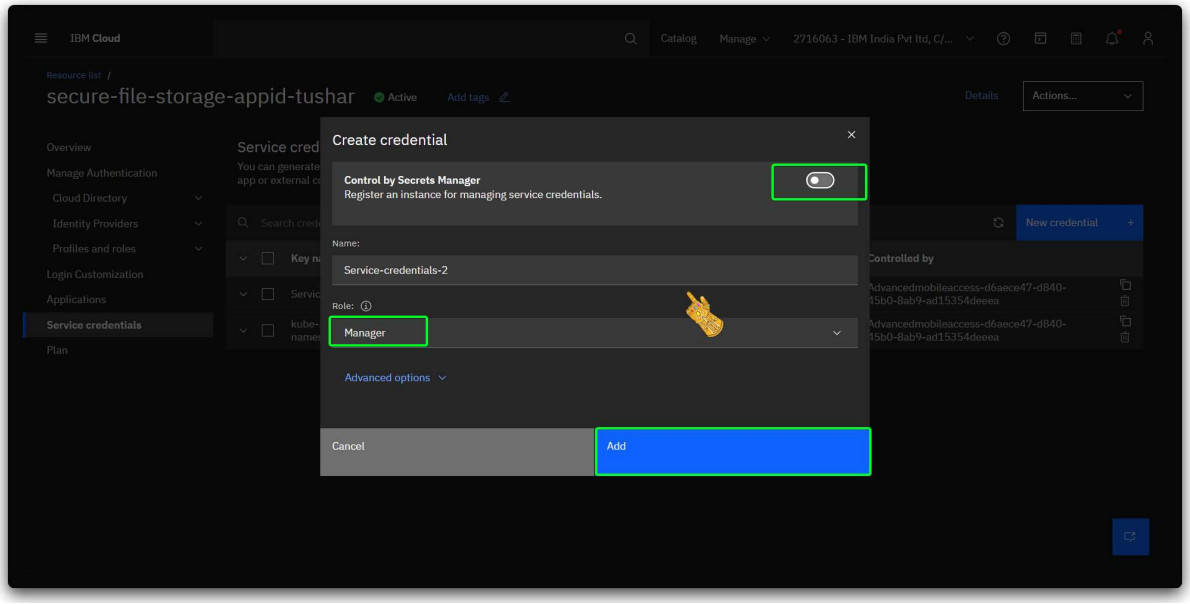
3. **User Signup:** Allow users to sign up via the Cloud Directory in App ID and manage their authentication.

1. Create AppID instance with graduate tier

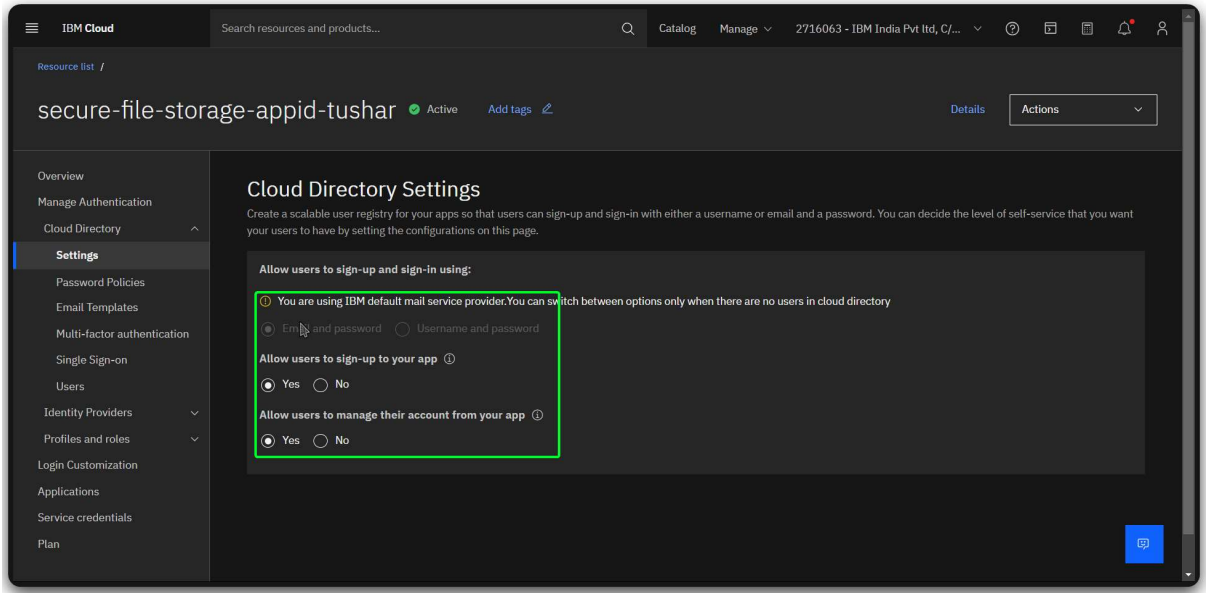




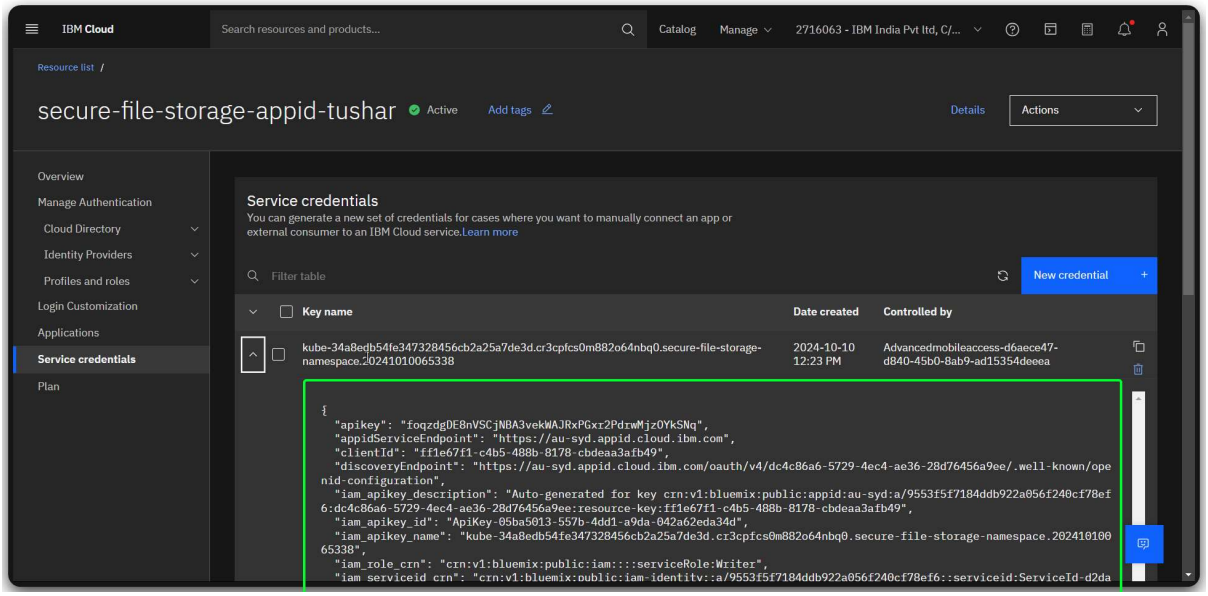
2. Create service credentials with manager role

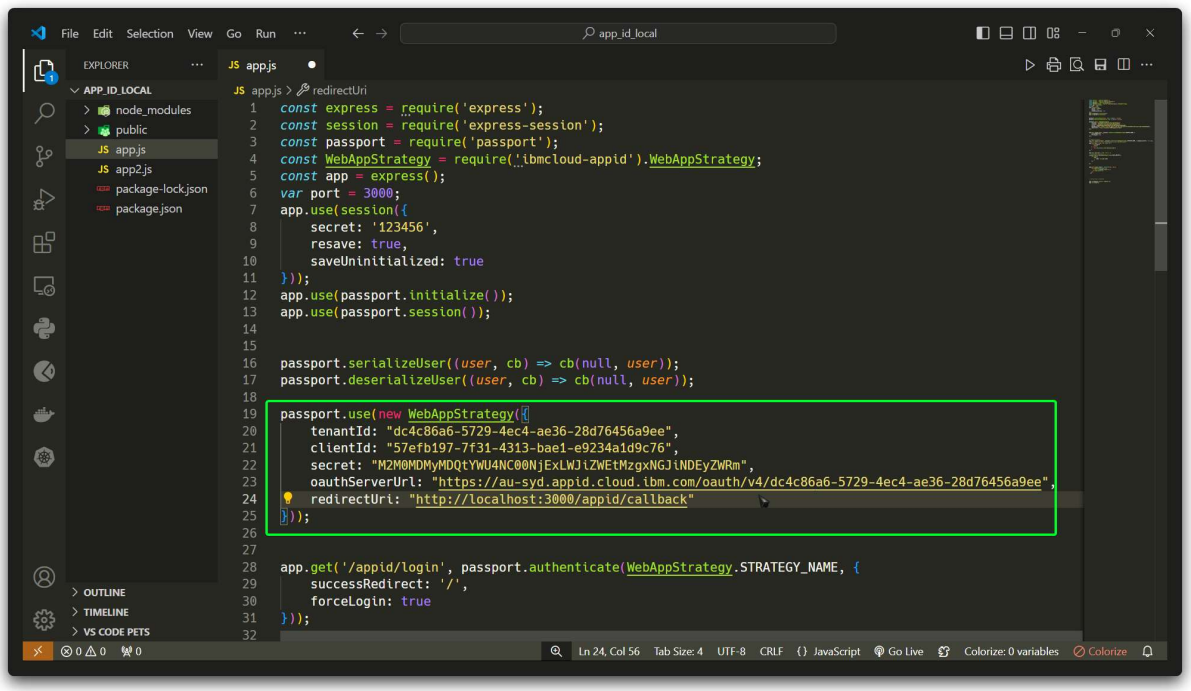


3. Ensure the below settings match



4. Copy and paste the credentials to node application



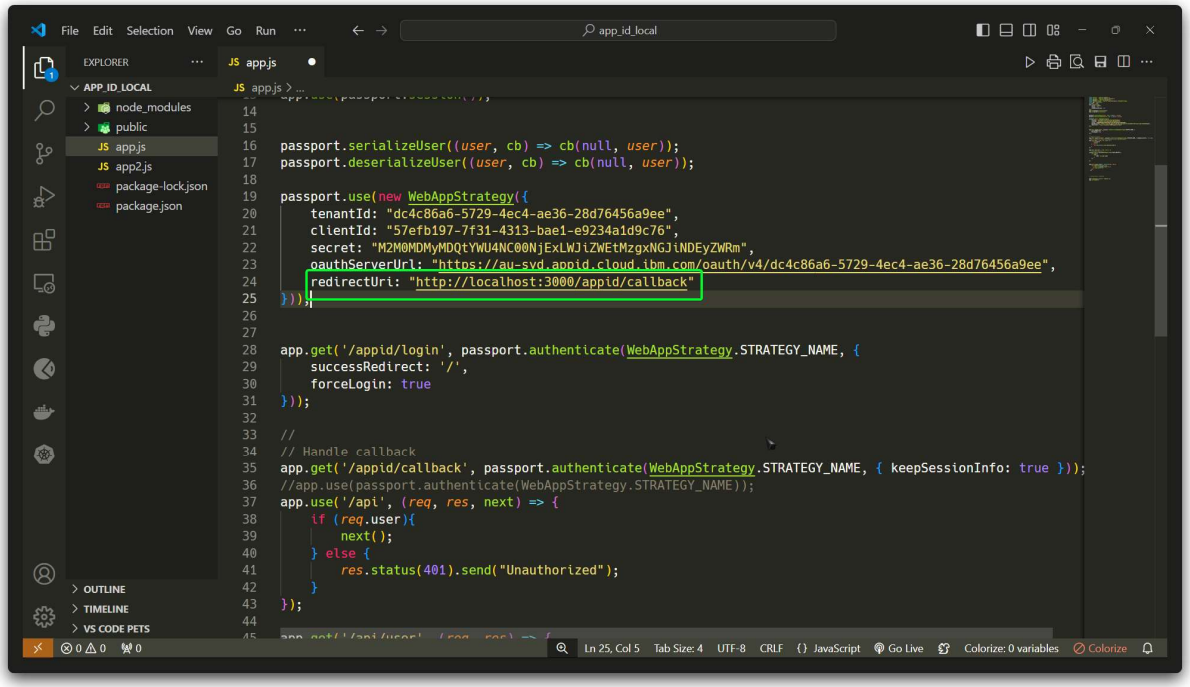


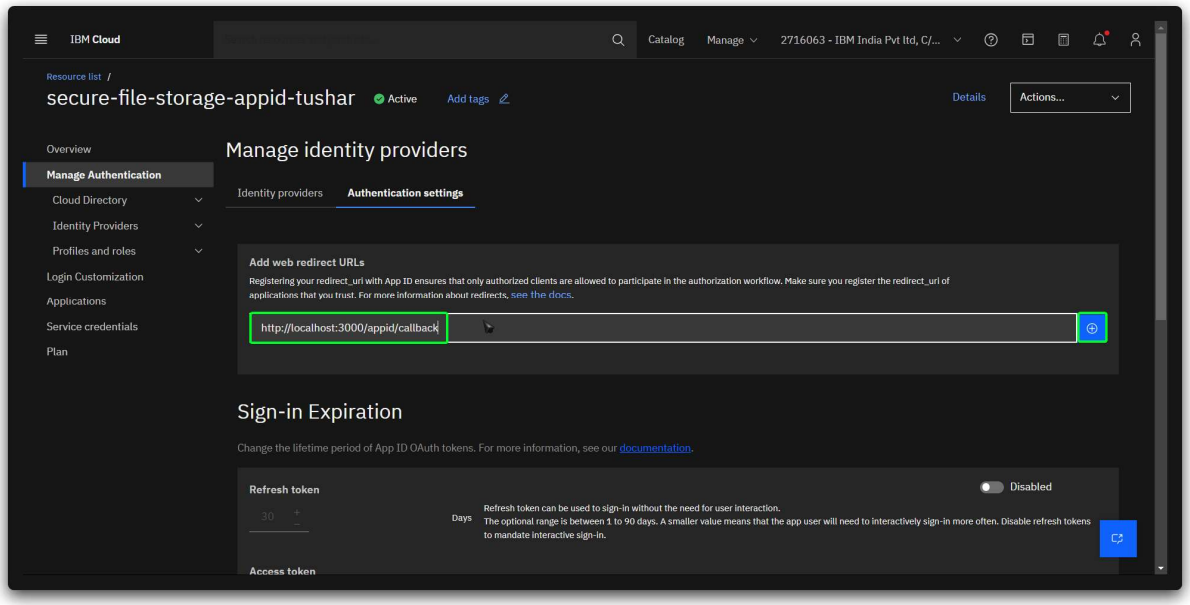
App.js:

```
const express = require('express');
const session = require('express-session');
const passport = require('passport');
const WebAppStrategy = require('ibmcloud-appid').WebAppStrategy;
const app = express();
var port = 3000;
app.use(session({
    secret: '123456',
    resave: true,
    saveUninitialized: true
}));
app.use(passport.initialize());
app.use(passport.session());
```

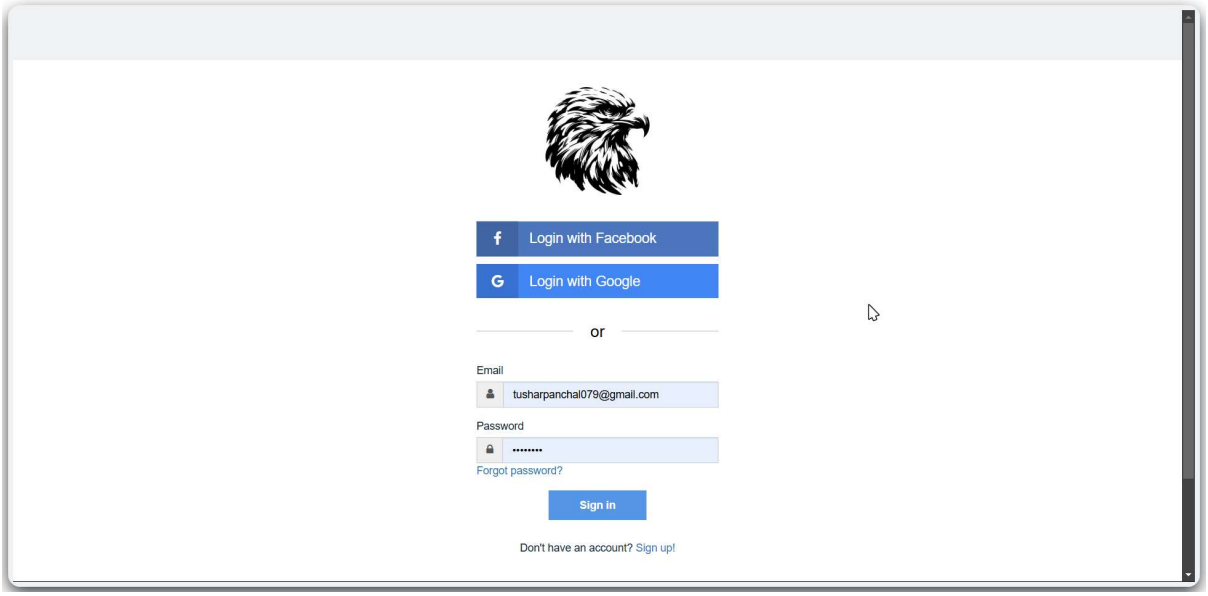
```
passport.serializeUser((user, cb) => cb(null, user));
passport.deserializeUser((user, cb) => cb(null, user));

passport.use(new WebAppStrategy({
    tenantId: "dc4c86a6-5729-4ec4-ae36-28d76456a9ee",
    clientId: "57efb197-7f31-4313-bae1-e9234a1d9c76",
    secret: "M2M0MDMyMDQtYWU4NC00NjExLWJiZWEtMzgxNGJiNDEyZWRm",
    oauthServerUrl: "https://au-syd.appid.cloud.ibm.com/oauth/v4/dc4c86a6-5729-4ec4-ae36-
28d76456a9ee",
    redirectUri: "http://localhost:3000/appid/callback"
}));


app.get('/appid/login', passport.authenticate(WebAppStrategy.STRATEGY_NAME, {
    successRedirect: '/',
    forceLogin: true
}));

//
// Handle callback
app.get('/appid/callback', passport.authenticate(WebAppStrategy.STRATEGY_NAME, {
keepSessionInfo: true }));
//app.use(passport.authenticate(WebAppStrategy.STRATEGY_NAME));
app.use('/api', (req, res, next) => {
    if (req.user){
        next();
    } else {
        res.status(401).send("Unauthorized");
    }
});

app.get('/api/user', (req, res) => {
    //console.log(res);
console.log(req.session[WebAppStrategy.AUTH_CONTEXT]);
    res.json({
        user: {
            name: req.user.name
        }
    });

});


app.get("/appid/logout", function(req, res) {
    req.logout(function(err) {
      if (err) { console.log(err); }
      res.redirect("/");
    });
  });



// Serve static resources

app.use(express.static('./public'));
app.listen(port);
```

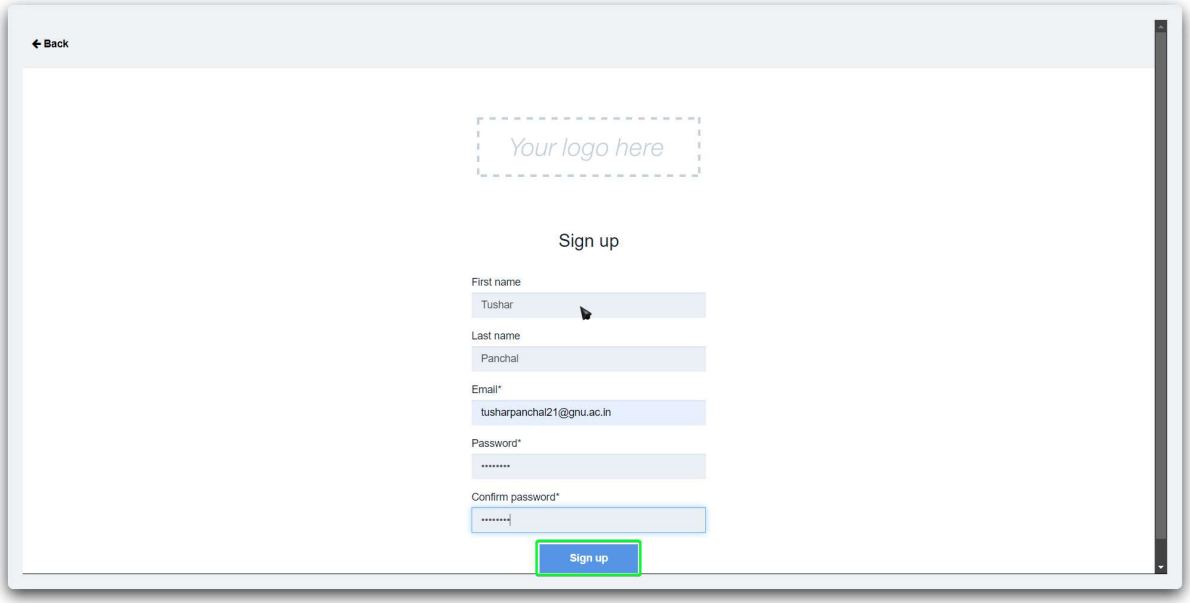
5. Add localhost redirect URI for local app to work

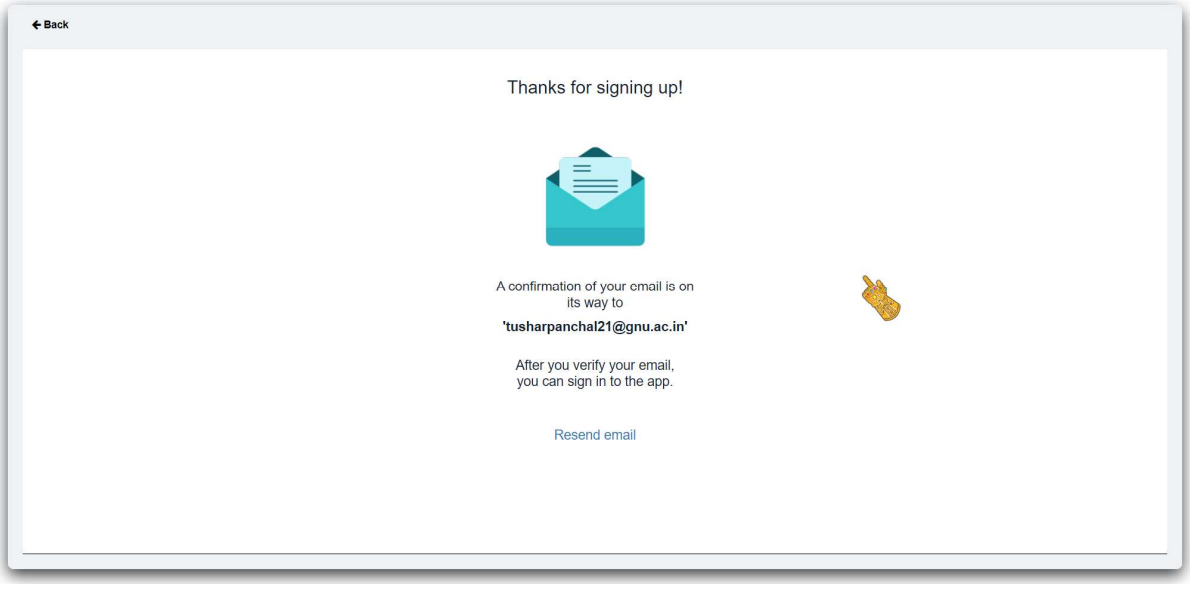


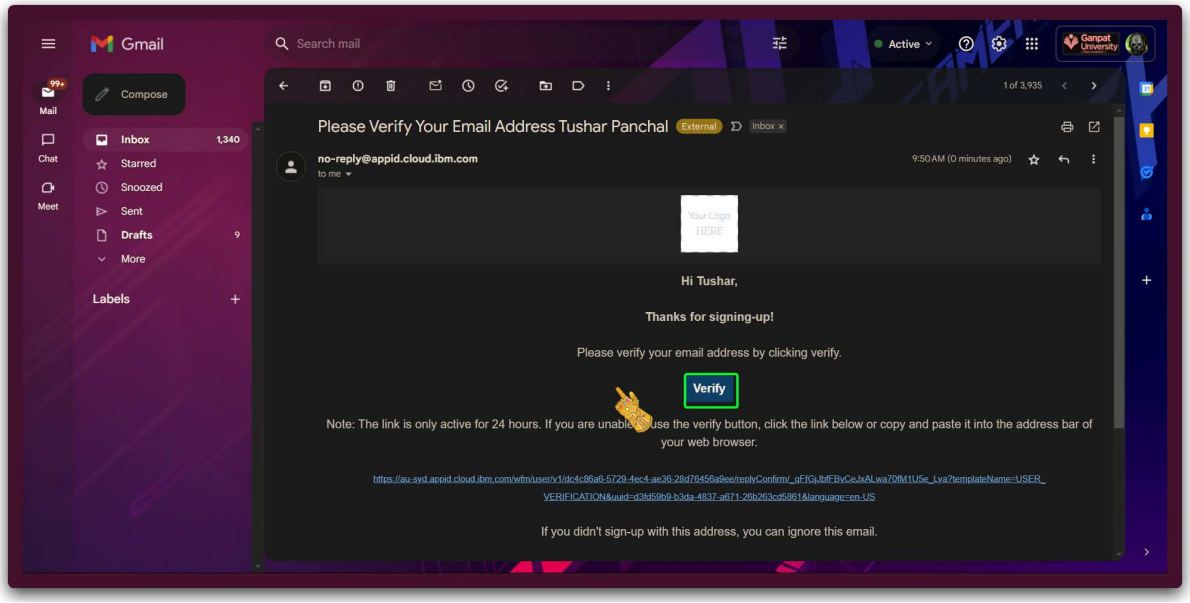


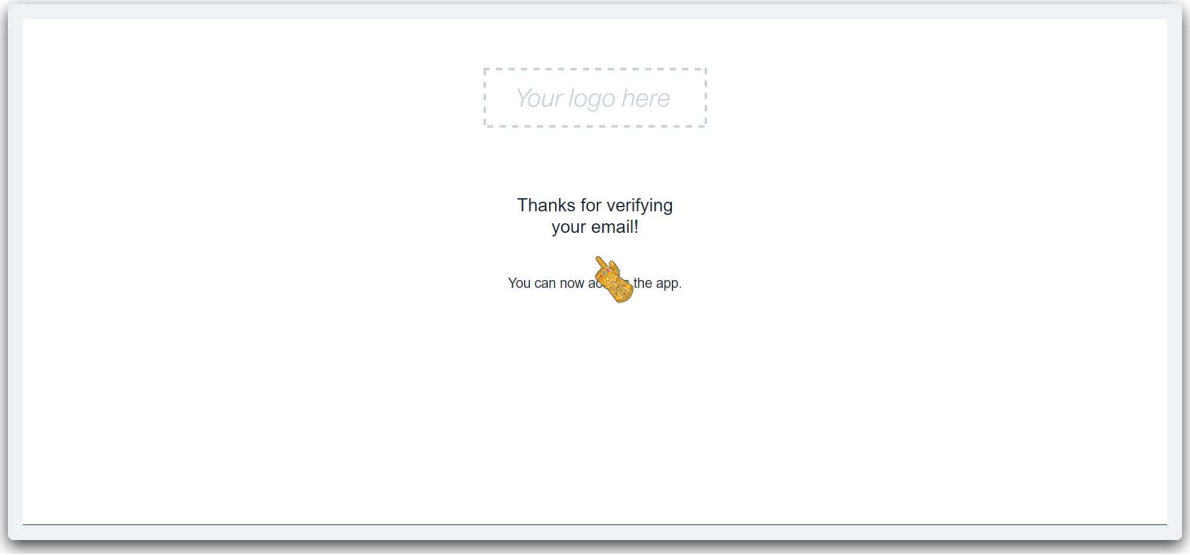
6. Run and check the signup feature if it's working

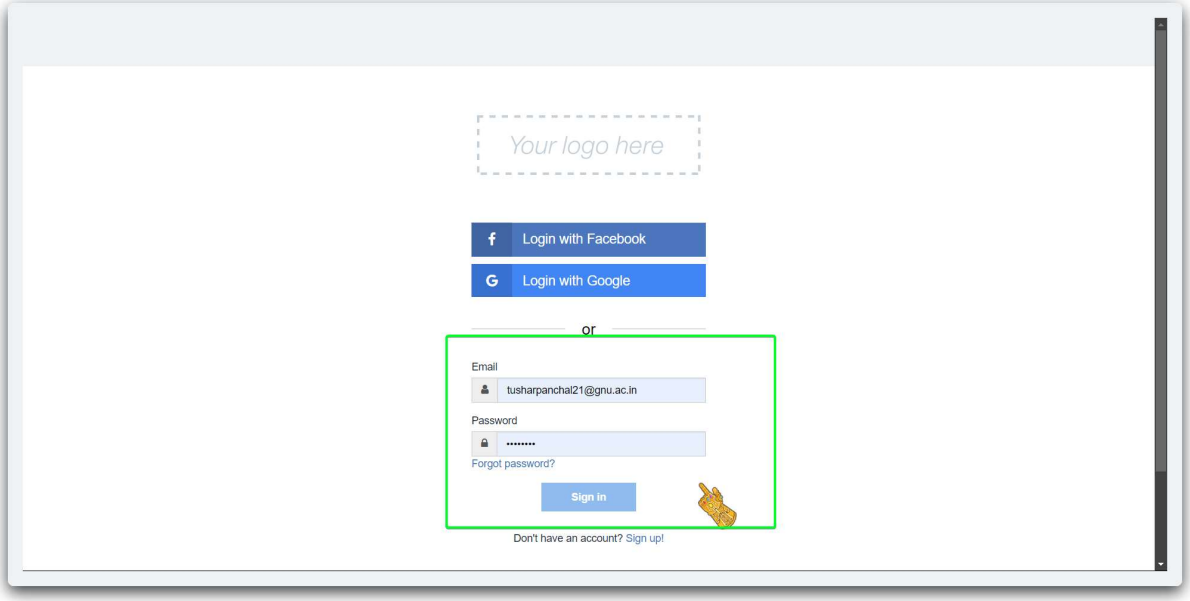

Login with Facebook
Login with Google
or
Email
tusharpanchal079@gmail.com
Password
Forgot password?
Sign in
Don't have an account? Sign up!

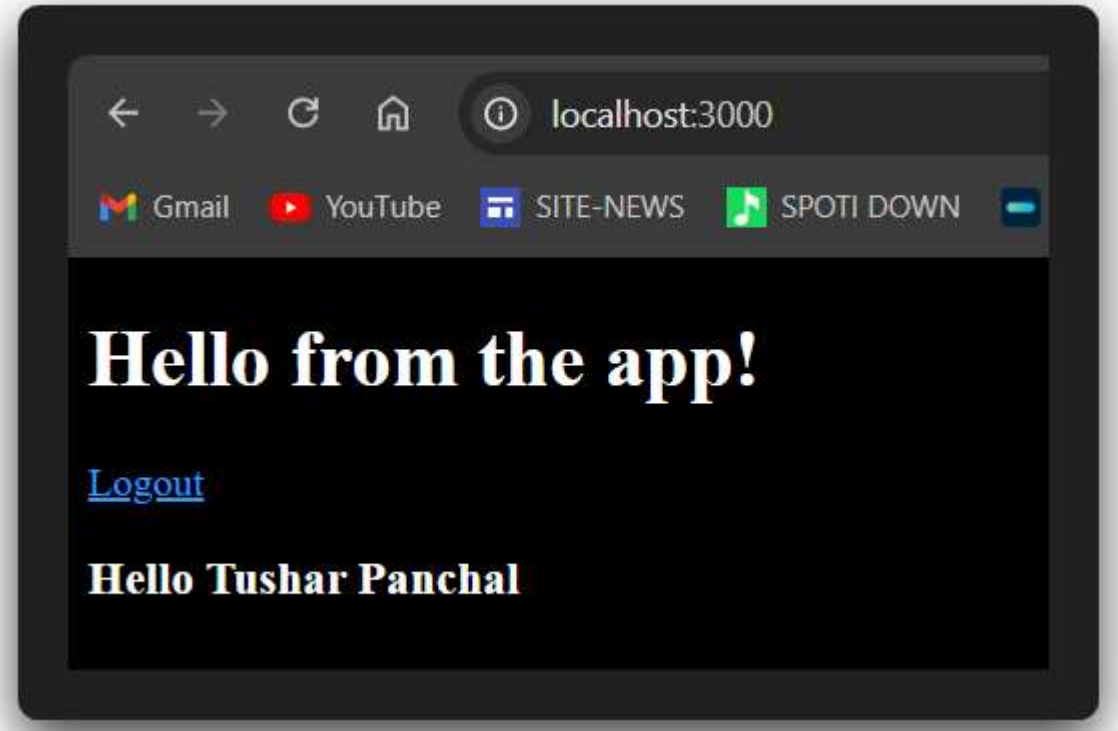

Back
Your logo here
Sign up
First name
Tushar
Last name
Panchal
Email*
tusharpanchal21@gnu.ac.in
Password*
Confirm password*
Sign up

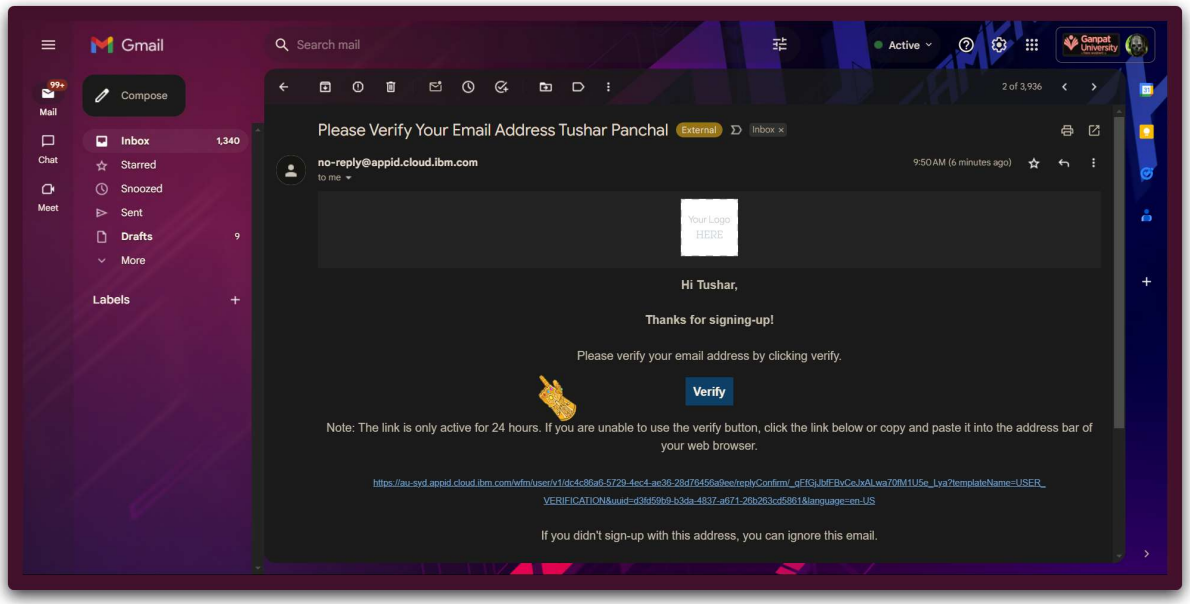

Back
Thanks for signing up!
A confirmation of your email is on its way to
'tusharpanchal21@gnu.ac.in'
After you verify your email, you can sign in to the app.
Resend email


Gmail
Search mail
Compose
Inbox 1,340
Starred
Snoozed
Sent
Drafts 9
More
Labels
Please Verify Your Email Address Tushar Panchal
External
Inbox
no-reply@appid.cloud.ibm.com
to me
9:50 AM (0 minutes ago)
1 of 3,935
Your Logo HERE
Hi Tushar,
Thanks for signing-up!
Please verify your email address by clicking verify.
Verify
Note: The link is only active for 24 hours. If you are unable to use the verify button, click the link below or copy and paste it into the address bar of your web browser.
If you didn't sign-up with this address, you can ignore this email.

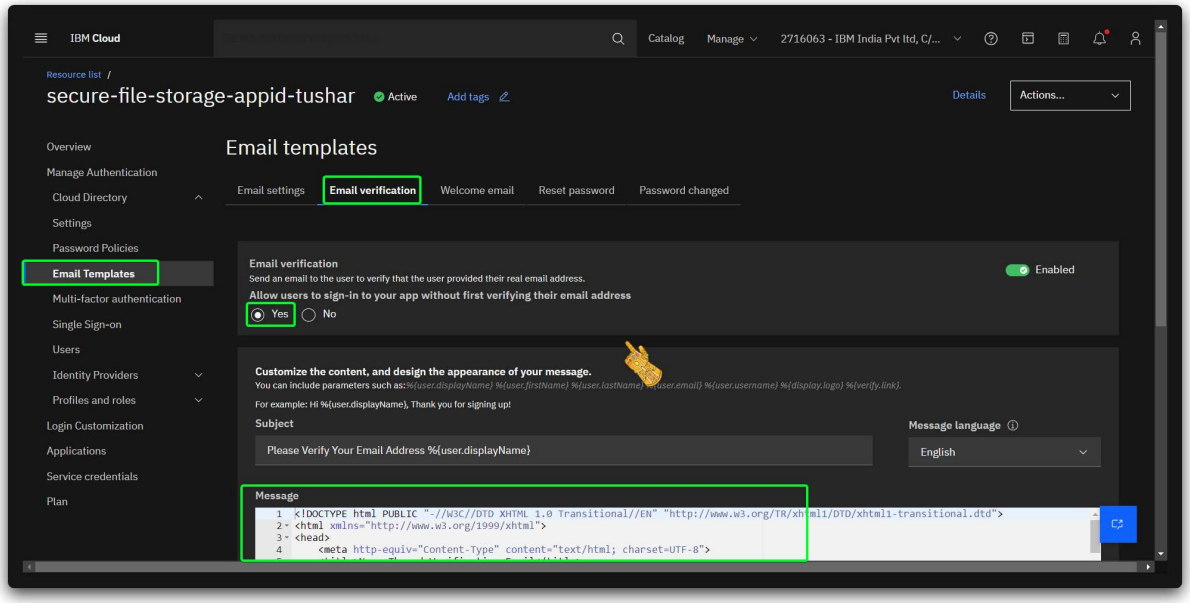

Your logo here
Thanks for verifying your email!
You can now access the app.


Your logo here
Login with Facebook
Login with Google
or
Email
tusharpanchal21@gnu.ac.in
Password
Forgot password?
Sign in
Don't have an account? Sign up!


localhost:3000
Gmail
YouTube
SITE-NEWS
SPOTI DOWN
Hello from the app!
Logout
Hello Tushar Panchal


Gmail
Search mail
Compose
Inbox 1,340
Starred
Snoozed
Sent
Drafts 9
More
Labels
Please Verify Your Email Address Tushar Panchal
External
no-reply@appid.cloud.ibm.com
to me
9:50 AM (6 minutes ago)
Hi Tushar,
Thanks for signing-up!
Please verify your email address by clicking verify.
Verify
Note: The link is only active for 24 hours. If you are unable to use the verify button, click the link below or copy and paste it into the address bar of your web browser.
If you didn't sign-up with this address, you can ignore this email.

7. Now try changing the appearance of verification mail via changing template

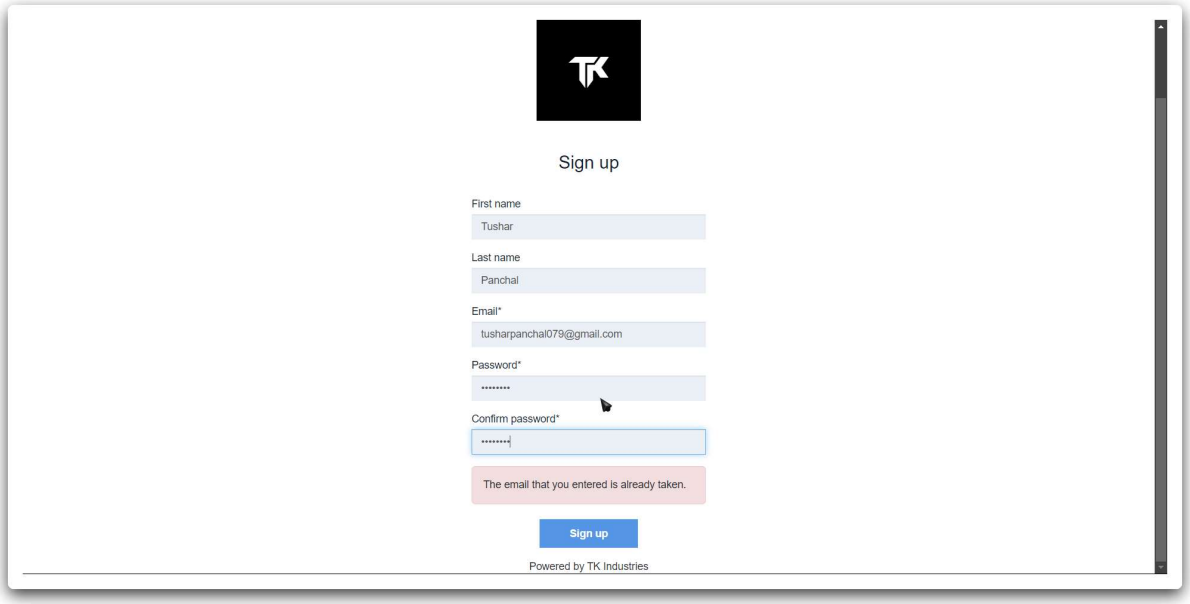


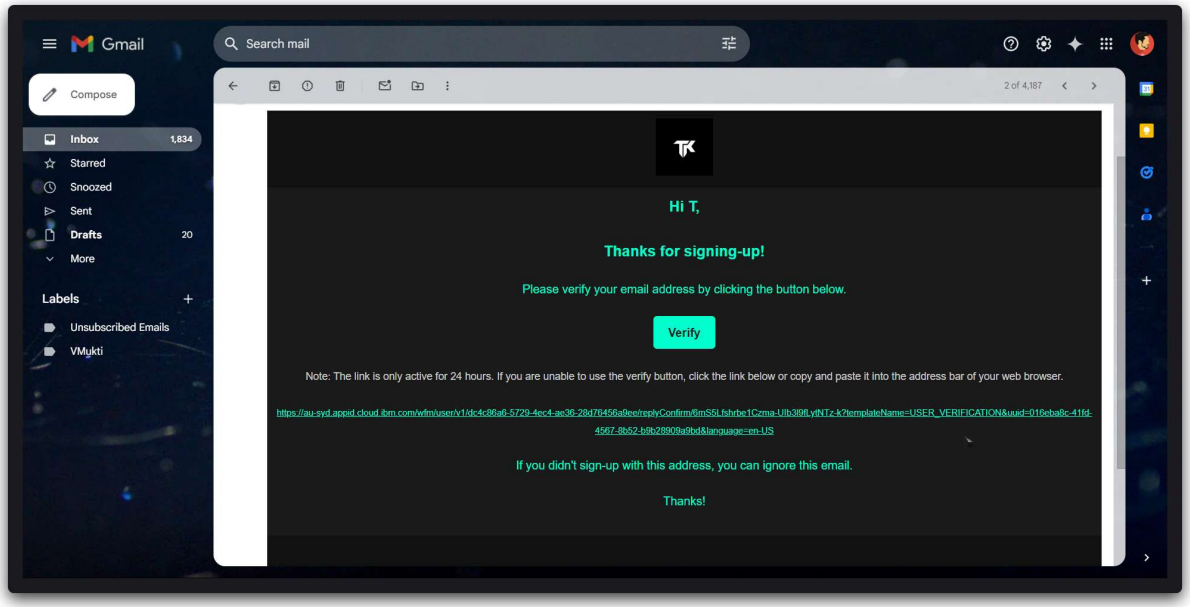
HTML:

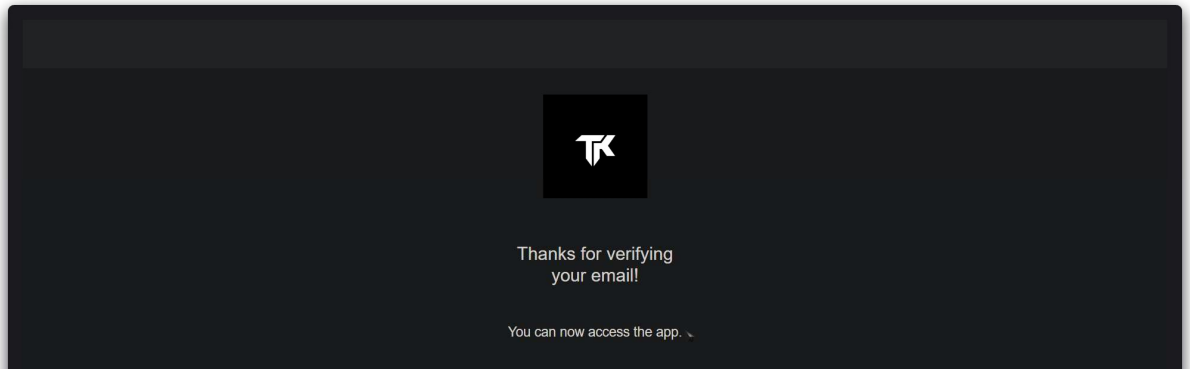
```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Neon Themed Verification Email</title>
</head>
<body style="background-color: #1a1a1a; color: #00ffcc; font-family: Gotham, 'Helvetica Neue',
Helvetica, Arial, sans-serif; font-size: 16px;">
    <span style="text-align: center;"></span>
    <table width="100%" border="0" align="center" cellpadding="10" cellspacing="0" style="font-
family: Gotham, 'Helvetica Neue', Helvetica, Arial, sans-serif; font-size: 16px; color:
#00ffcc;">
        <tbody>
            <tr>
                <td align="center" valign="middle" bgcolor="#111111">
                    <img src="%{display.logo}" style="object-fit: contain;" height="77"
alt="logo">
                </td>
            </tr>
            <tr>
                <td align="center">
                    <strong style="font-size: 20px;">Hi %{user.firstName},<br><br>Thanks for
signing-up!</strong><br><br>
                    Please verify your email address by clicking the button below.<br><br>
                    <a href="%{verify.link}" style="text-decoration: none;">
                        <span style="background-color: #00ffcc; padding: 10px 20px; color:
#1a1a1a; font-weight: bold; border-radius: 5px; display: inline-block; cursor: pointer;">
                            Verify
                        </span>
                    </a>
                    <br><br>
                    <span style="font-size: 14px; color: #cccccc;">
                        Note: The link is only active for %{linkExpiration.hours} hours. If you
are unable to use the verify button, click the link below or copy and paste it into the address
bar of your web browser.
```

```
                    </span>
                    <br><br>
                    <a href="%{verify.link}" style="font-size: 12px; color:
#00ffcc;">%{verify.link}</a>
                    <br><br>
                    If you didn't sign-up with this address, you can ignore this email.<br><br>
                    Thanks!<br><br>
                </td>
            </tr>
            <tr>
                <td bgcolor="#111111" style="height: 50px;"></td>
            </tr>
        </tbody>
    </table>
</body>
</html>
```

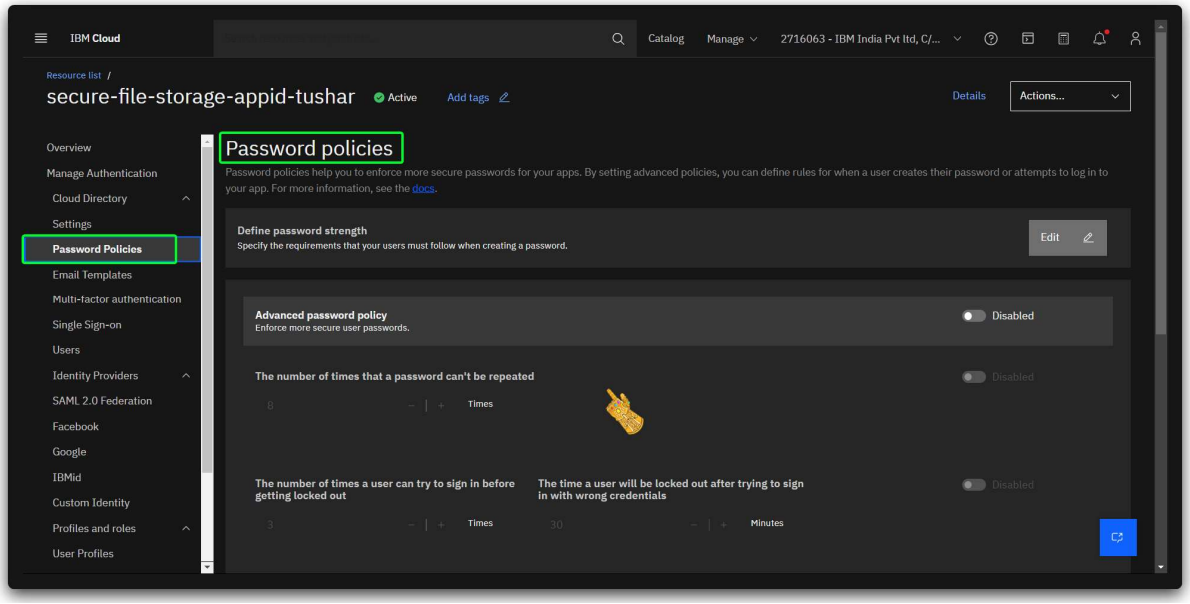
Now sign up in another email to check email verification







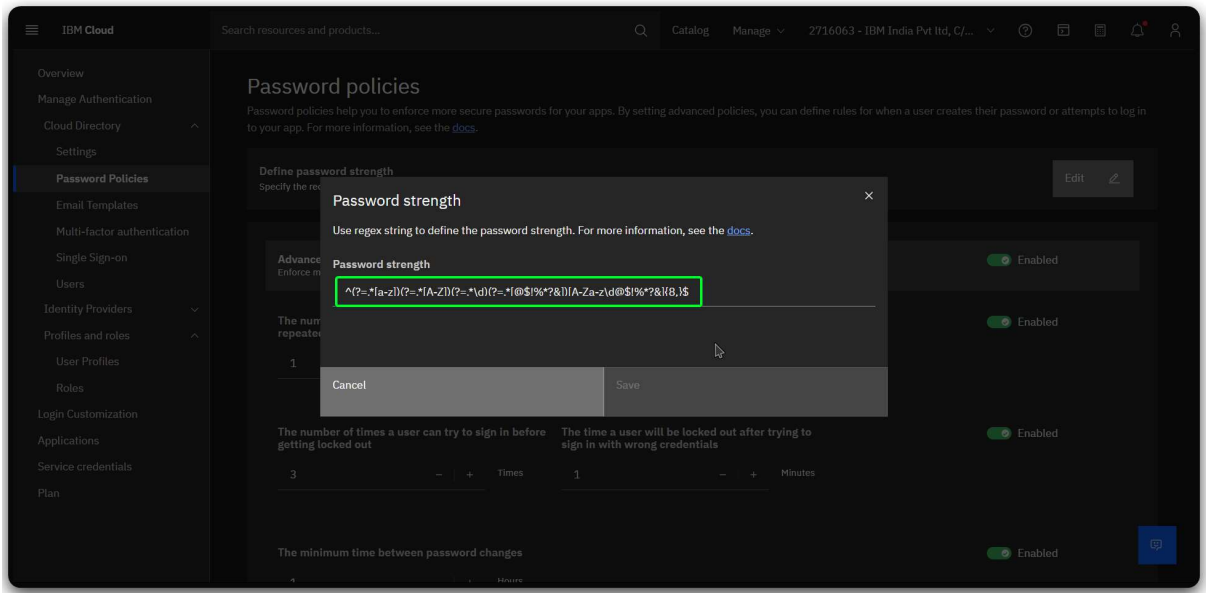
8. Now, change password policy and add regex for restrictions



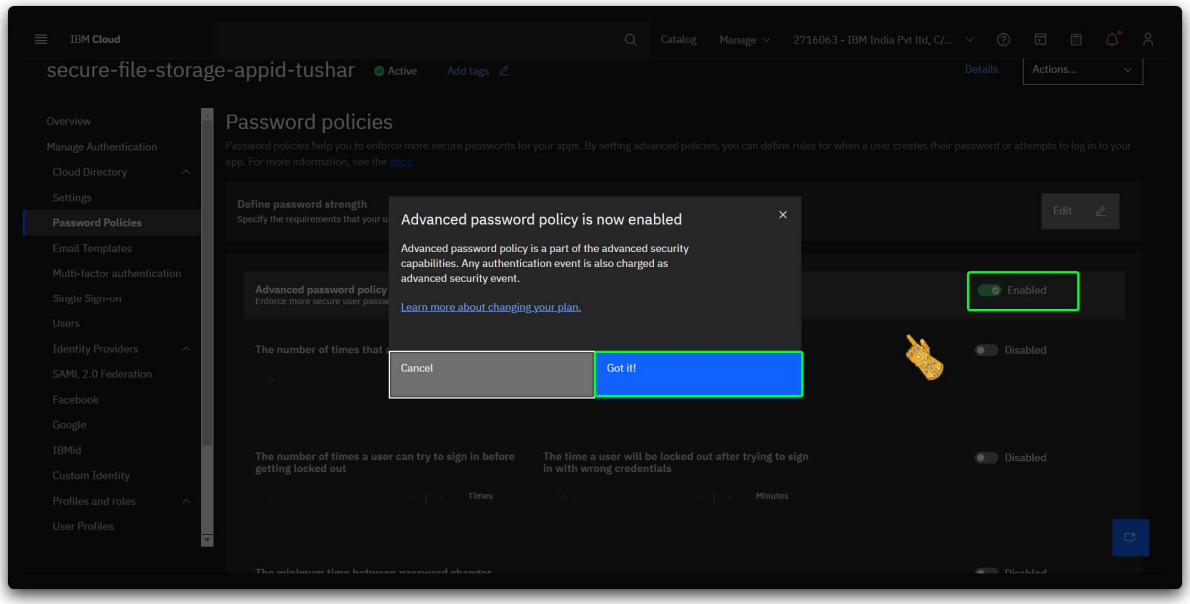
```
^(?=.*[a-z])(?=.*[A-Z])(?=.*\d)(?=.*[@$!%*?&])[A-Za-z\d@$!%*?&]{8,}$
```

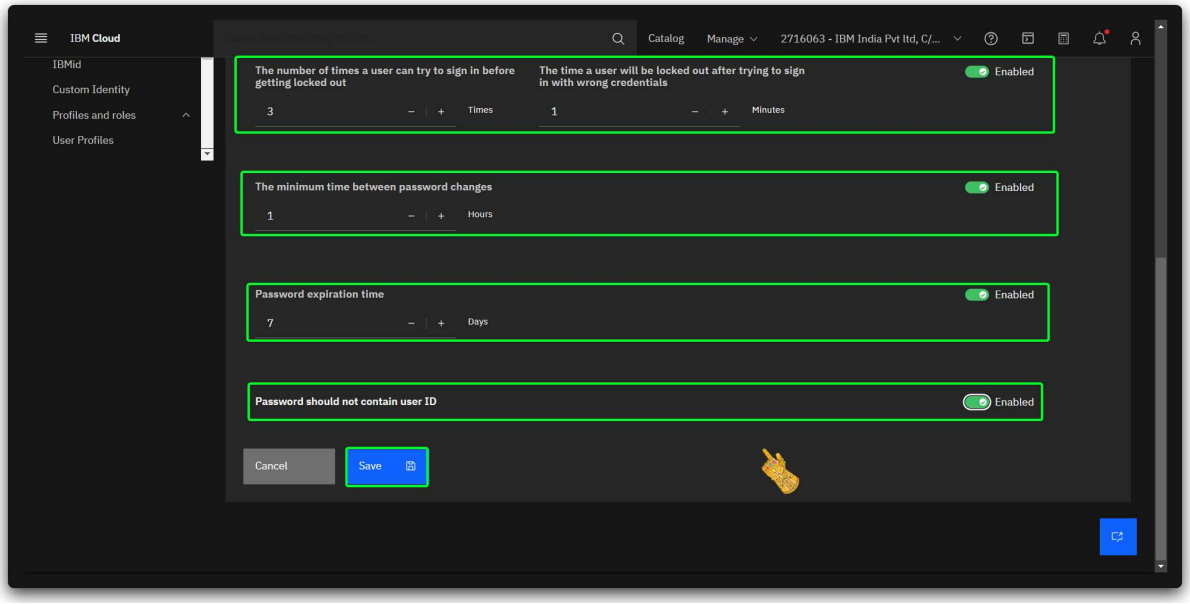
The above regular expression validates a password that meets the following criteria:

1. **At least one lowercase letter**: (?=.*[a-z])
2. **At least one uppercase letter**: (?=.*[A-Z])
3. **At least one digit**: (?=.*\d)
4. **At least one special character** (from @$!%*?&): (?=.*[@$!%*?&])
5. **Minimum length of 8 characters**: [A-Za-z\d@$!%*?&]{8,}



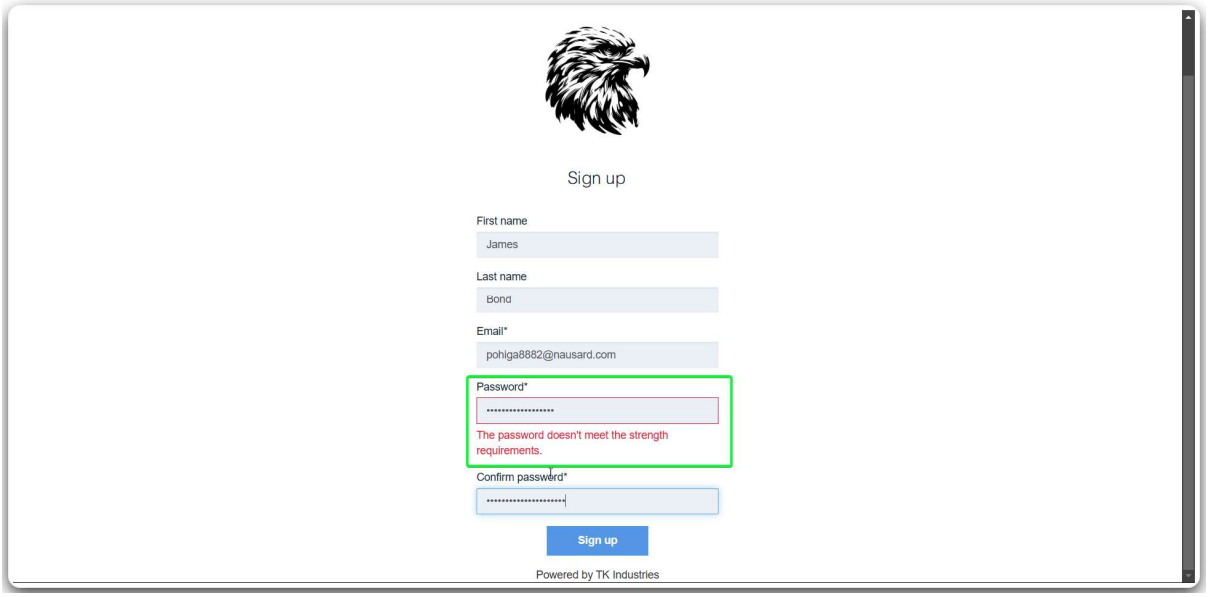
9. Also try changing advanced policies and test respectively

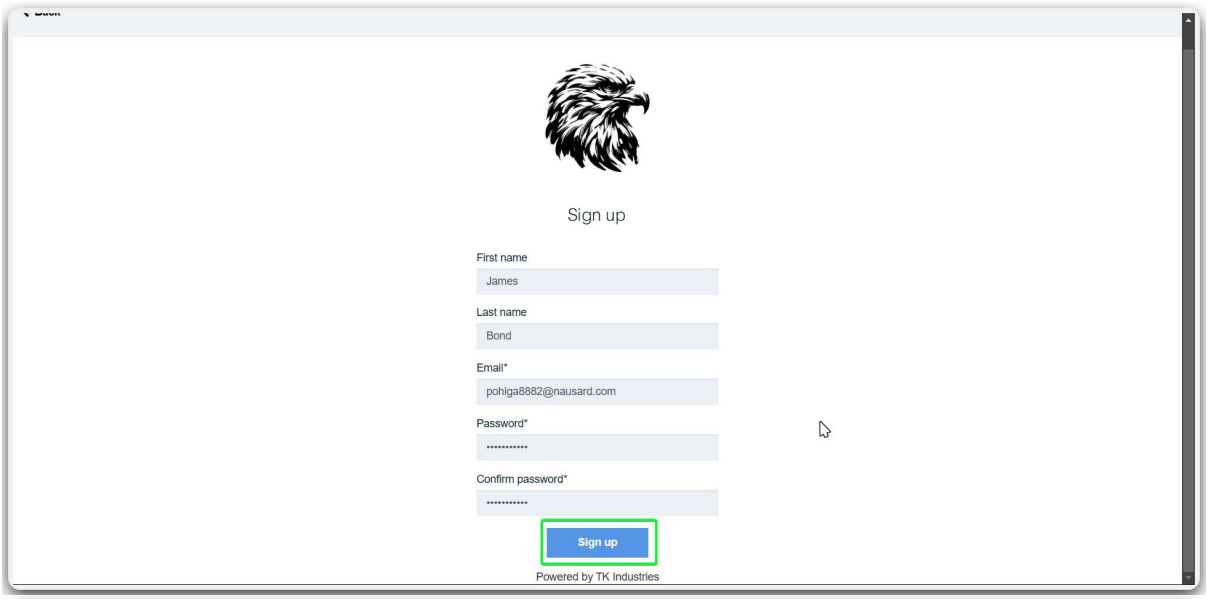


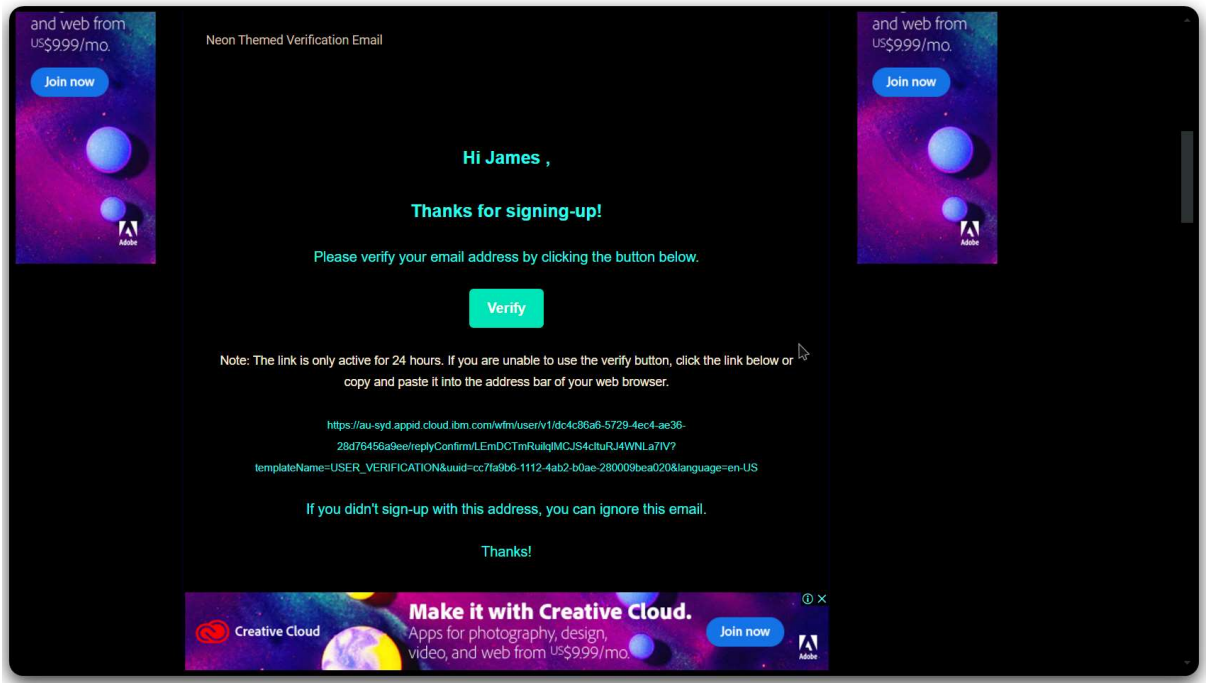


10.Now test the policies if they work

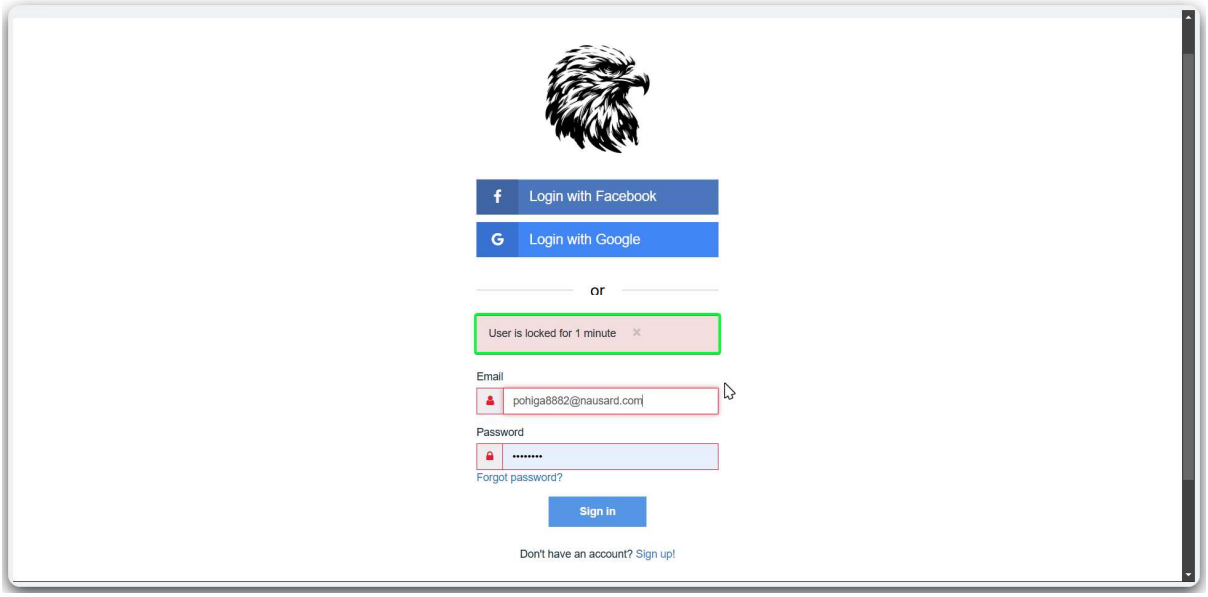
a) Regex requirement



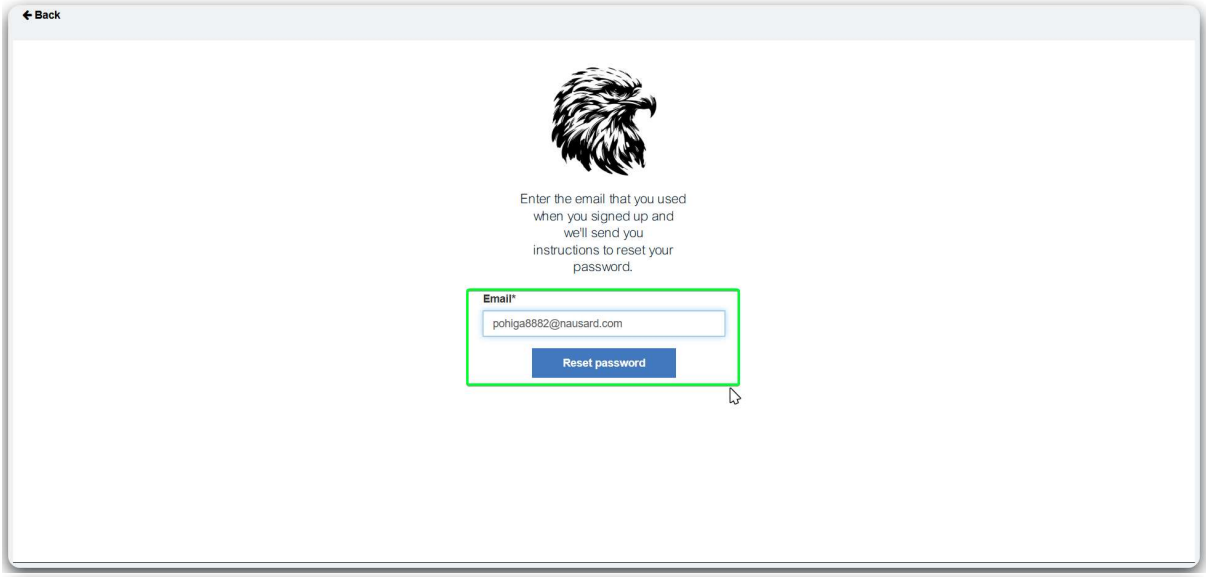


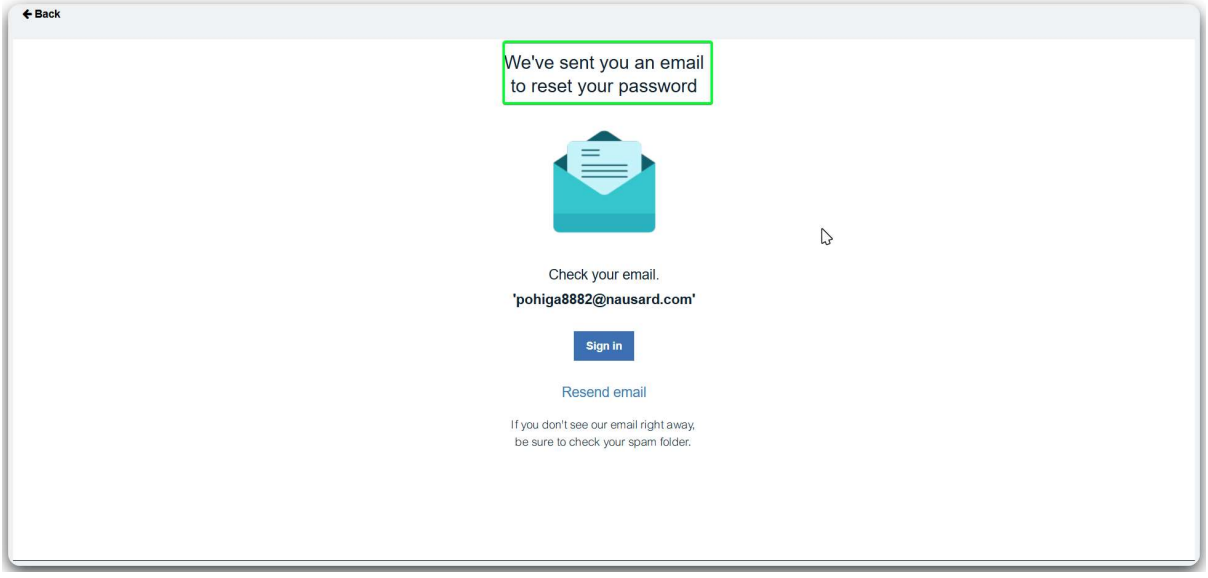


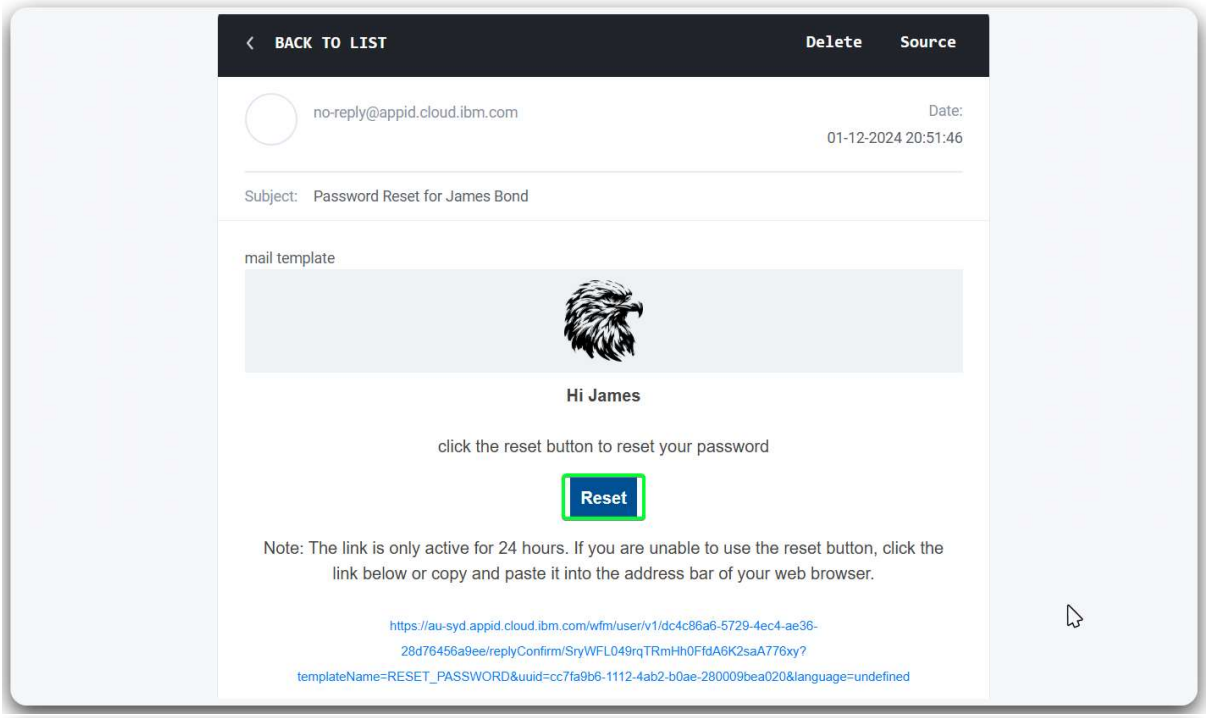
b) User will be locked if repeatedly presses same password which is wrong

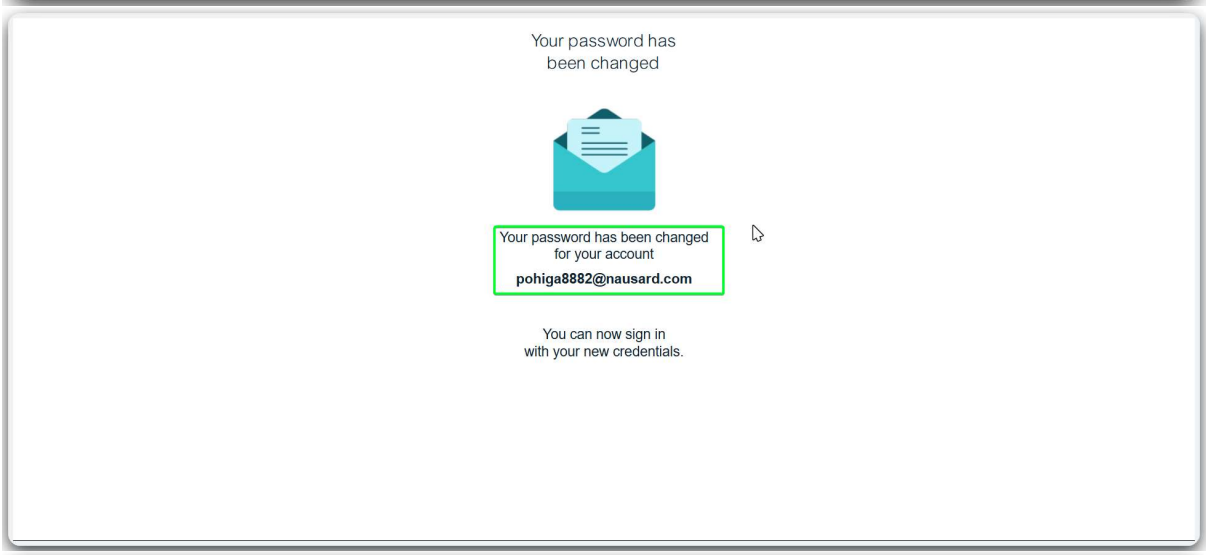


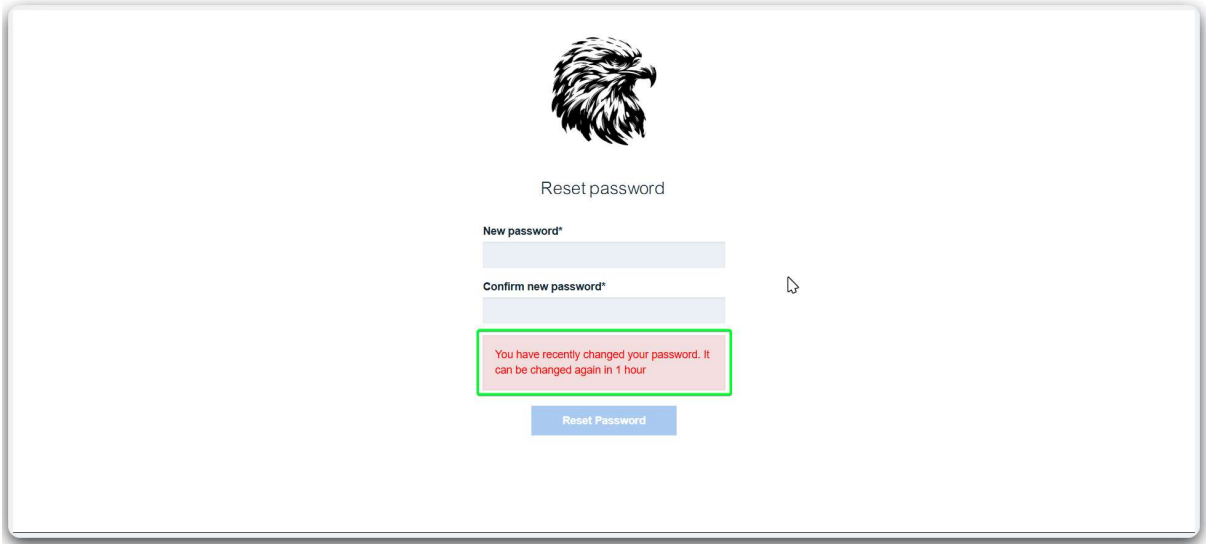
c)Resetting password is permitted once but not twice till minimum duration(here 1 hour)






BACK TO LIST
Delete
Source
no-reply@appid.cloud.ibm.com
Date:
01-12-2024 20:51:46
Subject: Password Reset for James Bond
mail template
Hi James
click the reset button to reset your password
Reset
Note: The link is only active for 24 hours. If you are unable to use the reset button, click the link below or copy and paste it into the address bar of your web browser.
https://au-syd.appid.cloud.ibm.com/wfm/user/v1/dc4c86a6-5729-4ec4-ae36-28d76456a9ee/replyConfirm/SryWFL049rqTRmHh0FfdA6K2saA776xy?templateName=RESET_PASSWORD&uuid=cc7fa9b6-1112-4ab2-b0ae-280009bea020&language=undefined


Your password has been changed
Your password has been changed for your account
pohiga8882@nausard.com
You can now sign in with your new credentials.


Reset password
New password*
Confirm new password*
You have recently changed your password. It can be changed again in 1 hour
Reset Password