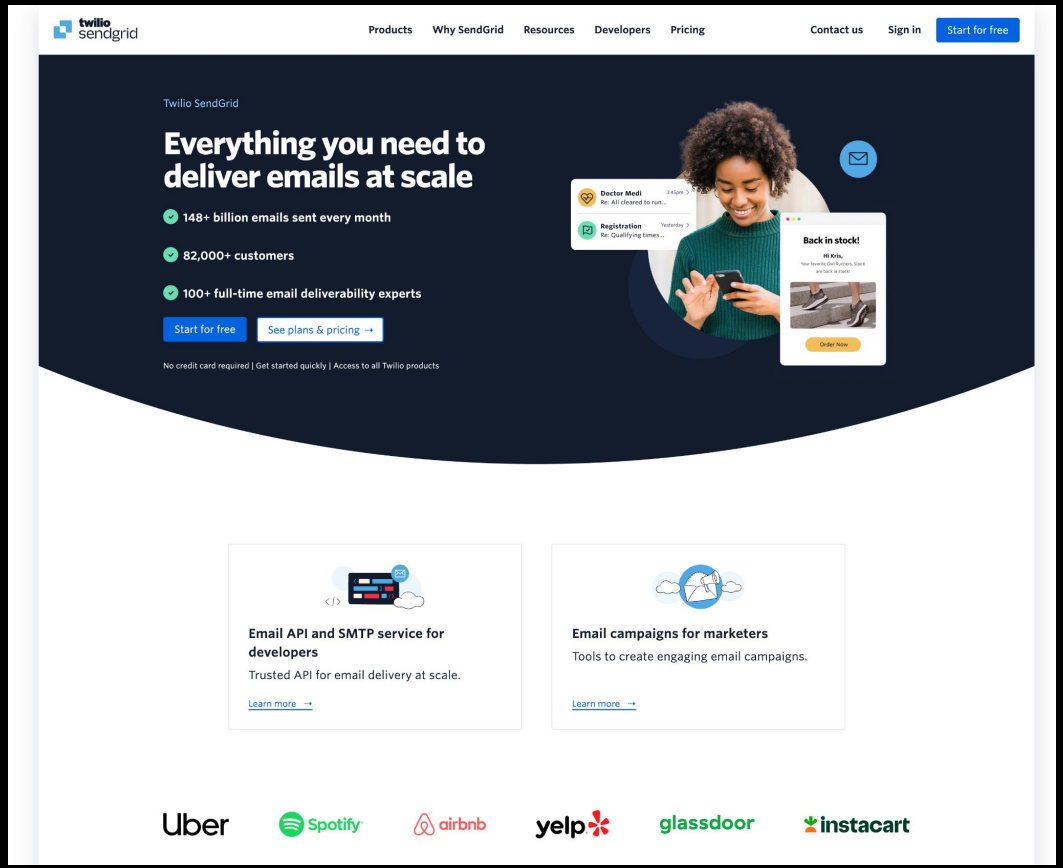
20. Emails & Advanced Auth

1. Why to send Email
2. Using SendGrid
3. Sending Email
4. Forgot Password Wireframe
5. Sending OTP
6. Reset Password

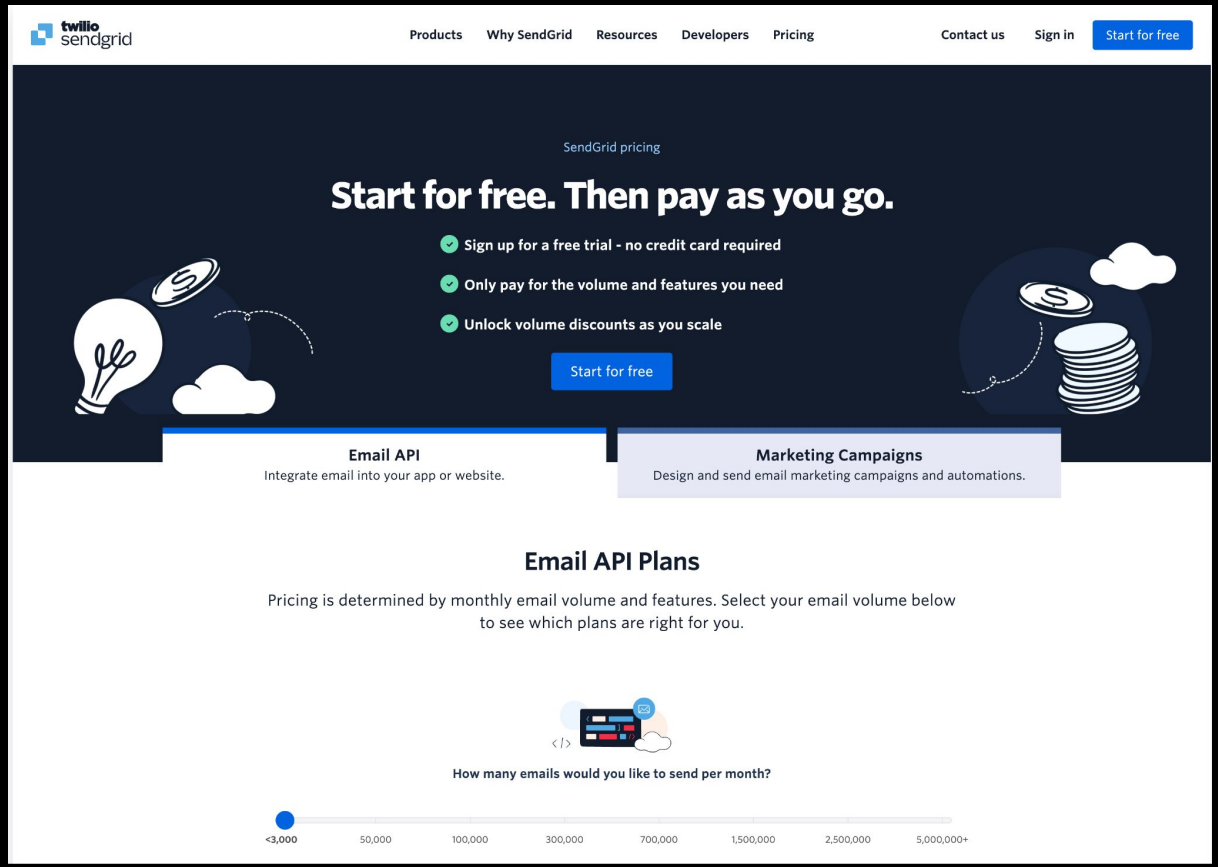
20.1 Why to send Email

1. Welcome Emails: Send a confirmation or greeting when a user successfully signs up.
2. Password Reset Emails: Provide secure links or OTPs for users to reset their passwords.
3. Order Confirmation: Send receipts or confirmations after a purchase is completed.
4. Account Activity Alerts: Notify users of important events like login from a new device.
5. Newsletter and Promotions: Distribute newsletters or promotional offers to subscribed users.

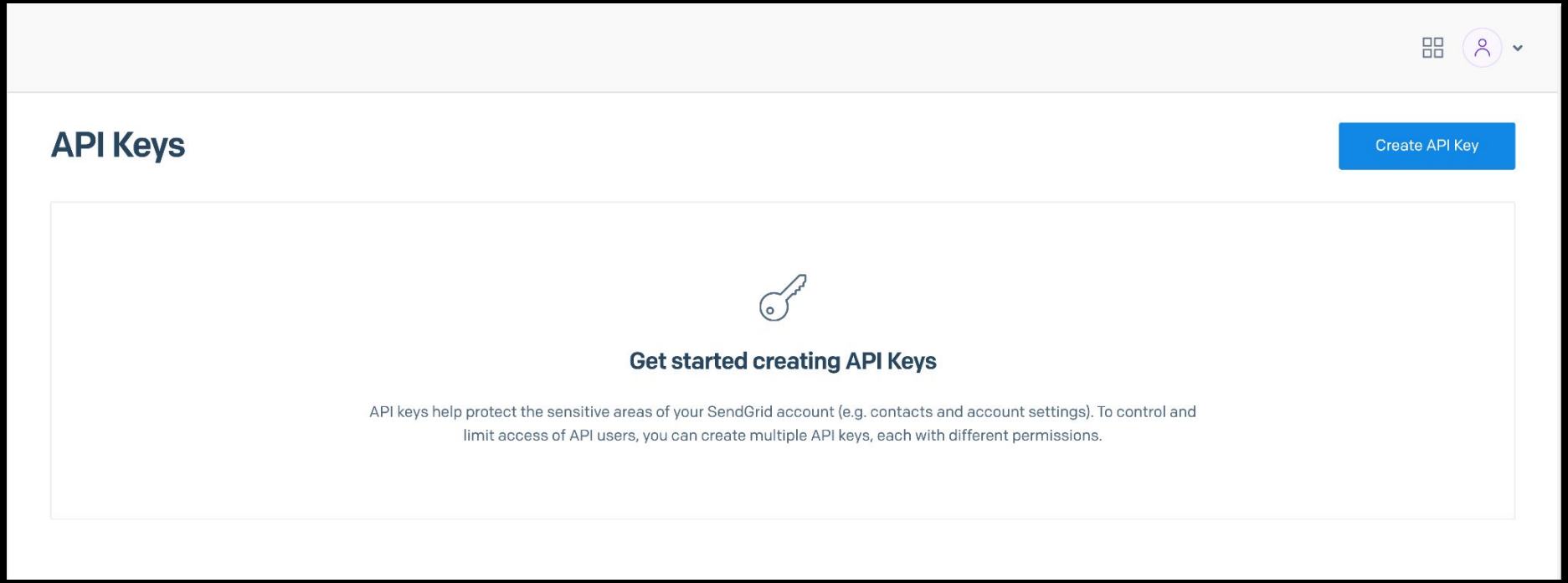
20.2 Using SendGrid



20.2 Using SendGrid



20.2 Using SendGrid



20.2 Using SendGrid

API Key Created

Please copy this key and save it somewhere safe.

For security reasons, we cannot show it to you again

Copied!

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

Done

20.2 Using SendGrid

Welcome

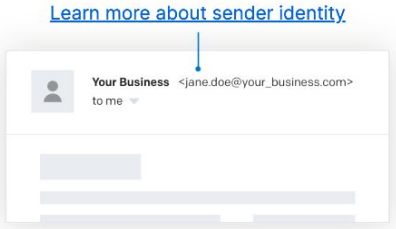
How to start sending mail

1

Send a single send

Your sender identity is the “from” email address your recipients see in their inbox. Once done, set up your integration for access to robust features.

Create sender identity →



2

Learn about email sending options

Complete the first step to unlock email sending options.

20.2 Using SendGrid

Sender Authentication /

Single Sender Verification

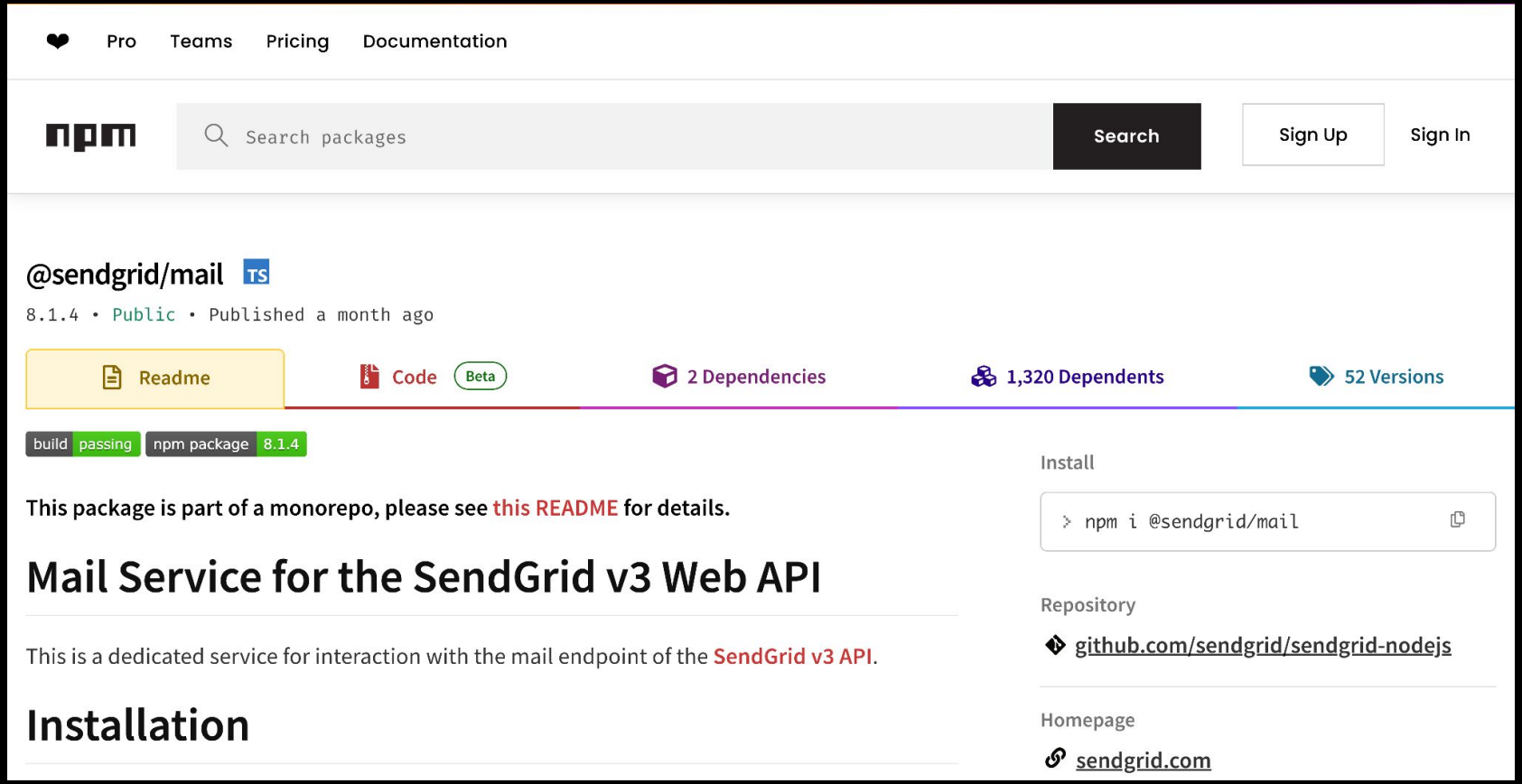
SENDERS	ADDRESS
Complete Coding FROM contact@completecoding.in REPLY contact@completecoding.in	Plot No 15 Sector 10A, Vasundha Ghaziabad, 201012 IN

Sender has been created

To verify sender identity, check your inbox at contact@completecoding.in.

Resend email | Close

20.2 Using SendGrid



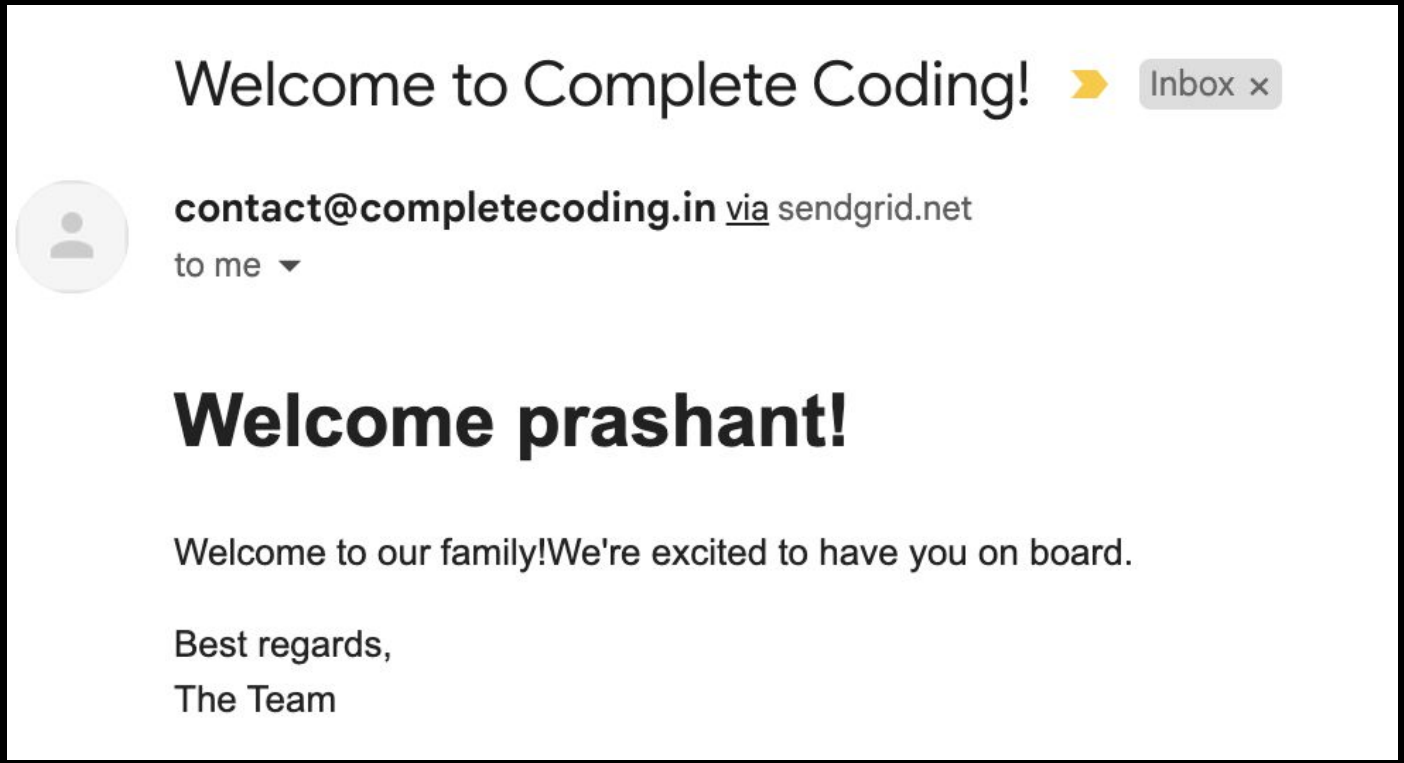
20.2 Using SendGrid

```
prashantjain@Prashants-MacBook-Pro 13 mongoose % npm install @sendgrid/mail

added 11 packages, and audited 281 packages in 3s

49 packages are looking for funding
  run `npm fund` for details

1 high severity vulnerability

To address all issues, run:
  npm audit fix

Run `npm audit` for details.
```

20.3 Sending Email

```
const sgMail = require('@sendgrid/mail');
const SENDGRID_API_KEY = 'SG.0BsQdZJqSzmcAofUQqeZBQ.
z-DbZaCPWs-zkAd3UfzS_YA5fqYH8UUXg2FANf7mOyI';

bcrypt.hash(password, 12)
  .then(hashedPassword => {
    const user = new User({
      firstName: firstName,
      lastName: lastName,
      email: email,
      password: hashedPassword,
      userType: userType
    });
    return user.save();
  })
  .then(() => {
    // Send welcome email
    sgMail.setApiKey(SENDGRID_API_KEY);
    const msg = {
      to: email,
      from: 'contact@completecoding.in', // Change to your verified sender
      subject: 'Welcome to Complete Coding!',
      html: `<h1>Welcome ${firstName}!</h1><p>Welcome to our family!We're excited to
      have you on board.</p><p>Best regards,<br>The Team</p>`
    };
    return sgMail.send(msg);
  })
  .then(() => {
    res.redirect('/login');
  })
```

20.3 Sending Email



20.4 Forgot Password Wireframe

1. Define a new forgot.ejs file using the login.ejs file with email field and a button to Reset Password.
2. Add a link to login page for forgot password to /forgot-password
3. Add entry in the auth router and controller to show the page.
4. Submitting the form should go to POST /forgot-password which will find the user by email-id and redirect him to a new page /reset-password passing email-id as a parameter.

20.4 Forgot Password Wireframe

1.

```
<form action="/forgot-password" method="POST" class="w-full max-w-md">

  <% if (typeof errorMessage !== 'undefined' && errorMessage) { %>
    <div class="bg-red-100 border border-red-400 text-red-700 px-4 py-3 rounded relat
    mb-4" role="alert">
      <span class="block sm:inline"><%= errorMessage %></span>
    </div>
  <% } %>

  <input
    type="email"
    name="email"
    value="<%= typeof oldEmail !== 'undefined' ? oldEmail : '' %>"
    placeholder="Enter your email"
    class="w-full px-4 py-2 mb-4 border border-gray-300 rounded-lg focus:outline-none
    focus:border-blue-500"
  />

  <div class="flex justify-center">
    <input
      type="submit"
      value="Reset Password"
      class="bg-blue-500 hover:bg-blue-600 text-white font-semibold py-2 px-4 rounded
      transition duration-300 ease-in-out transform hover:scale-105 cursor-pointer"
    >
  </div>
</form>
```

20.4 Forgot Password Wireframe

2.

```
<div class="flex justify-between items-center mb-4">
  <a href="/forgot-password" class="text-blue-500 hover:text-blue-600
  text-sm">Forgot Password?</a>
</div>
```

3.

```
exports.getForgotPassword = (req, res, next) => {
  res.render("auth/forgot", { pageTitle: "Forgot Password", isLoggedIn: false,
    user: req.session.user });
};

authRouter.get("/forgot-password", authController.getForgotPassword);
authRouter.post("/forgot-password", authController.postForgotPassword);
```

20.4 Forgot Password Wireframe

4.

```
exports.postForgotPassword = async (req, res, next) => {
  const { email } = req.body;
  try {
    const user = await User.findOne({ email: email });
    if (!user) {
      return res.render('auth/forgot', {
        pageTitle: 'Forgot Password',
        isLoggedIn: false,
        user: req.session.user,
        errorMessage: 'No account found with this email'
      });
    }
    res.redirect(`/reset-password?email=${email}`);
  } catch (err) {
    console.log('Error in forgot password:', err);
    return res.render('auth/forgot', {
      pageTitle: 'Forgot Password',
      isLoggedIn: false,
      user: req.session.user,
      errorMessage: err.message
    });
  }
};
```

20.5 Sending OTP

1. Add OTP and OTP-Expiry fields to User model.
2. Generate a random 6 digit OTP, to be sent in the password reset email.
3. In the user object add value of both fields, save the user.
4. Send the same OTP to the user in an email along with a link to /reset-password page.

20.5 Sending OTP

1.
```
favouriteHomes: [{
  type: mongoose.Schema.Types.ObjectId,
  ref: 'Home'
}],
otp: {
  type: String,
  required: false
},
otpExpiry: {
  type: Date,
  required: false
}
```

20.5 Sending OTP

2,3.

4.

```
exports.postForgotPassword = async (req, res, next) => {
  const { email } = req.body;
  try {
    const user = await User.findOne({ email: email });
    if (!user) {
      throw new Error('No account found with this email');
    }

    const otp = Math.floor(100000 + Math.random() * 900000).toString();
    user.otp = otp;
    user.otpExpiry = Date.now() + 5 * 60 * 1000;
    await user.save();

    sgMail.setApiKey(SENDGRID_API_KEY);
    const msg = {
      to: email,
      from: 'contact@completecoding.in',
      subject: 'Reset Password OTP',
      html: `<h1>Reset Password OTP</h1><p>Your OTP is ${otp}. It is valid for 5 minutes.</p>`
    };
    await sgMail.send(msg);

    res.redirect(`/reset-password?email=${email}`);
  } catch (err) {
    console.log('Error in forgot password:', err);
    return res.render('auth/forgot', {
      pageTitle: 'Forgot Password',
      isLoggedIn: false,
      user: req.session.user,
      oldEmail: email,
      errorMessage: err.message
    });
  }
};
```

20.6 Reset Password

1. Define a new reset-password.ejs file using the signup.ejs file that shows email, otp, password, confirm_password and a button to Reset Password.
2. Define a GET /reset-password route and a controller entry in auth files
3. Submitting the form should go to POST /reset-password which will log the request body.
4. Add same validations on password and confirm_password.
5. In the POST controller, take out the email-id and find the user. Check if user is found and the expiration date is greater than now, and the OTP matches, reset the password. And redirect to login page.

20.6 Reset Password

1.

```
<input type="email" name="email" placeholder="Enter your Email" value="<%= typeof email
!== 'undefined' ? email : '' %>" readonly class="w-full px-4 py-2 mb-4 border
border-gray-300 rounded-lg bg-gray-100"/>

<input type="text" name="otp" placeholder="Enter OTP" class="w-full px-4 py-2 mb-4 border
border-gray-300 rounded-lg focus:outline-none focus:border-blue-500"/>

<input type="password" name="password" placeholder="New Password" class="w-full px-4 py-2
mb-4 border border-gray-300 rounded-lg focus:outline-none focus:border-blue-500"/>

<input type="password" name="confirm_password" placeholder="Confirm New Password"
class="w-full px-4 py-2 mb-4 border border-gray-300 rounded-lg focus:outline-none
focus:border-blue-500"/>

<div class="flex justify-center">
  <input type="submit" value="Update Password" class="bg-blue-500 hover:bg-blue-600
  text-white font-semibold py-2 px-4 rounded-lg transition duration-300 ease-in-out
  transform hover:scale-105 cursor-pointer">
</div>
```

20.6 Reset Password

2.

```
authRouter.get("/reset-password", authController.getResetPassword);
authRouter.post("/reset-password", authController.postResetPassword);

exports.getResetPassword = (req, res, next) => {
  const { email } = req.query;
  res.render("auth/reset_password", { pageTitle: "Reset Password", isLoggedIn: false,
    user: req.session.user, email: email });
};
```

3.

```
exports.postResetPassword = async (req, res, next) => {
  const { email, otp, password } = req.body;
  console.log(email, otp, password);
  return res.redirect('/login');
};
```

20.6 Reset Password

4.

```
exports.postResetPassword = [
    // Password validation
    check('password')
    .isLength({ min: 8 })
    .withMessage('Password must be at least 8 characters long')
    .matches(/[a-z]/)
    .withMessage('Password must contain at least one lowercase letter')
    .matches(/[A-Z]/)
    .withMessage('Password must contain at least one uppercase letter')
    .matches(/[!@#$%^&*(),.?":{}|<>]/)
    .withMessage('Password must contain at least one special character')
    .trim(),

  // Confirm password validation
  check('confirm_password')
    .trim()
    .custom((value, { req }) => {
      if (value !== req.body.password) {
        throw new Error('Passwords do not match');
      }
      return true;
    }),

  async (req, res, next) => {
```

20.6 Reset Password

5.

```
async (req, res, next) => {
  const { email, otp, password } = req.body;
  try {
    const user = await User.findOne({ email: email });

    if (!user) {
      throw new Error('No user found with this email');
    } else if (user.otpExpiry < Date.now()) {
      throw new Error('OTP has expired. Please request a new one.');
    } else if (user.otp !== otp) {
      throw new Error('Invalid OTP');
    }

    const hashedPassword = await bcrypt.hash(password, 12);
    user.password = hashedPassword;
    user.otp = undefined;
    user.otpExpiry = undefined;
    await user.save();

    return res.redirect('/login');
  } catch (err) {
    console.log('Error in reset password:', err);
    return res.render('auth/reset_password', {
      pageTitle: 'Reset Password',
      isLoggedIn: false,
      user: req.session.user,
      email: email,
      errorMessage: err.message
    });
  }
}
```

Revision

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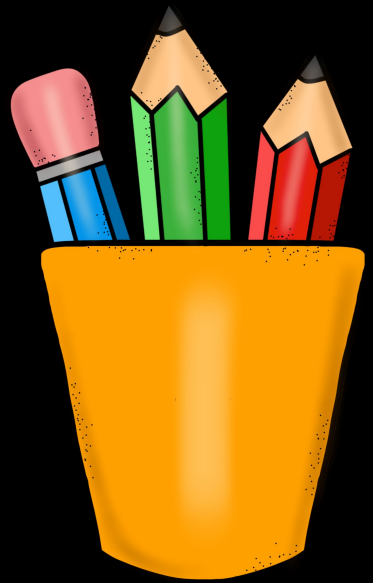

Practise Milestone

Take your airbnb forward:

1. Takeout the validations in a separate file.
2. Define a partial for showing errors and add it to all files where it is used.

Practise Milestone (Solution)

1.

```
const { check } = require('express-validator');

exports.firstNameValidator = check('firstName')
  .notEmpty()
  .withMessage("First name is mandatory")
  .trim()
  .isLength({min: 2})
  .withMessage('First Name should be minium 2 chars')
  .matches(/^[a-zA-Z\s]+$/)
  .withMessage('First Name should only contain english aplhabets');

exports.lastNameValidator = check('lastName')
  .trim()
  .matches(/^[a-zA-Z\s]*$/)
  .withMessage('Last Name should only contain english aplhabets');

exports.emailValidator = check('email')
  .isEmail()
  .withMessage('Please enter a valid email')
  .normalizeEmail();

exports.passwordValidator = check('password')
  .trim()
```

Practise Milestone (Solution)

1.

```
const {
  firstNameValidator,
  lastNameValidator,
  emailValidator,
  passwordValidator,
  confirmPasswordValidator,
  userTypeValidator,
  termsAcceptedValidator
} = require('./validations');
```

```
exports.postSignup = [
  firstNameValidator,
  lastNameValidator,
  emailValidator,
  passwordValidator,
  confirmPasswordValidator,
  userTypeValidator,
  termsAcceptedValidator,

  // Final handler middleware
  (req, res, next) => {
    const { firstName, lastName, email, password, userType } = req.body;
    const errors = validationResult(req);
```

```
exports.postResetPassword = [
  passwordValidator,
  confirmPasswordValidator,

  async (req, res, next) => {
    const { email, otp, password } = req.body;
    try {
```

Practise Milestone (Solution)

2.

```
<% if (typeof errorMessages !== 'undefined' && errorMessages && errorMessages.length
> 0) { %>
  <ul class="bg-red-100 border border-red-400 text-red-700 px-4 py-3 rounded mb-4'
    <% errorMessages.forEach(errorMessage => { %>
      <li class="flex items-center">
        <svg class="w-4 h-4 mr-2" fill="currentColor" viewBox="0 0 20 20">
          <path fill-rule="evenodd" d="M10 18a8 8 0 100-16 8 8 0 000 16zM8.707 7.
          293a1 1 0 00-1.414 1.414L8.586 10l-1.293 1.293a1 1 0 101.414 1.414L10 11.
          414l1.293 1.293a1 1 0 001.414-1.414L11.414 10l1.293-1.293a1 1 0 00-1.414-1.
          414L10 8.586 8.707 7.293z" clip-rule="evenodd"/>
        </svg>
        <%= errorMessage %>
      </li>
    <% }) %>
  </ul>
<% } %>
```

```
<form action="/signup" method="POST" class="w-full max-w-md">

  <%- include('../partials/error-messages') %>

  <input
    type="text"
    name="firstName"
```