Use Neon Auth with Next.js (API methods)

Build your own auth UI using SDK methods

> **BETA**
>
> The **Neon Auth with Better Auth** is in Beta. Share your feedback on Discord ↗ or via the Neon Console ↗.

> **NOTE**
>
> Upgrading from Neon Auth SDK v0.1? See the migration guide for step-by-step instructions.

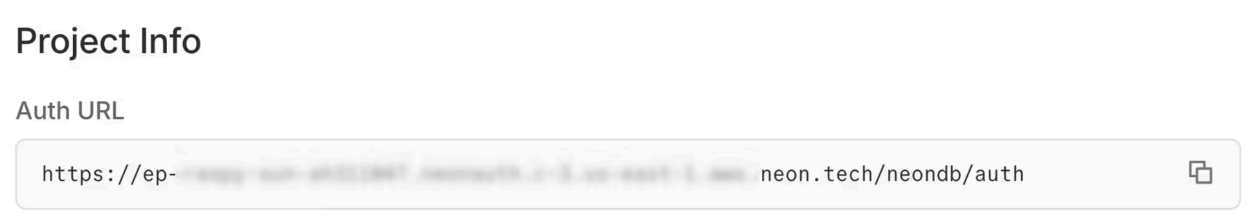
This guide shows you how to integrate Neon Auth into a Next.js ↗ (App Router) project using SDK methods directly. To use our pre-built UI components instead, see the UI components guide.

1 Enable Auth in your Neon project

Enable Auth in your Neon project ↗ and copy your Auth URL from Configuration.

Console path: Project → Branch → Auth → Configuration

Console


Project Info

Auth URL

```
https://ep-[redacted]neon.tech/neondb/auth
```

2 Install the Neon SDK

Install the Neon SDK into your Next.js app.

If you don't have a Next.js project

Terminal

```
npm install @neondatabase/auth
```

3 Set up environment variables

Create a `.env.local` file in your project root and add your Auth URL and a cookie secret:

> **NOTE**
>
> Replace the Auth URL with your actual Auth URL from the Neon Console. Generate a secure cookie secret with `openssl rand -base64 32` .

.env.local

```
NEON_AUTH_BASE_URL=https://ep-xxx.neonauth.us-east-1.aws.neon.tech/neondb/auth
NEON_AUTH_COOKIE_SECRET=your-secret-at-least-32-characters-long
```

4 Create auth server instance

Create a unified auth instance in `lib/auth/server.ts` . This single instance provides all server-side auth functionality:

- `.handler()` for API routes
- `.middleware()` for route protection
- `.getSession()` and all Better Auth server methods

See the Next.js Server SDK reference for complete API documentation.

lib/auth/server.ts

```
import { createNeonAuth } from '@neondatabase/auth/next/server';

export const auth = createNeonAuth({
  baseUrl: process.env.NEON_AUTH_BASE_URL!,
  cookies: {
    secret: process.env.NEON_AUTH_COOKIE_SECRET!,
  },
});
```

5 Set up auth API routes

Create an API route handler that proxies auth requests. All Neon Auth APIs will be routed through this handler. Create a route file inside `/api/auth/[...path]` directory:

app/api/auth/[...path]/route.ts

```
import { auth } from '@/lib/auth/server';

export const { GET, POST } = auth.handler();
```

6 Add authentication middleware

The middleware ensures users are authenticated before accessing protected routes. Create `proxy.ts` file in your project root:

proxy.ts

```
import { auth } from '@/lib/auth/server';

export default auth.middleware({
  // Redirects unauthenticated users to sign-in page
  loginUrl: '/auth/sign-in',
});

export const config = {
  matcher: [
    // Protected routes requiring authentication
    '/account/:path*',
  ],
};
```

NOTE

> Your Next.js project is now fully configured to use Neon Auth. Now, lets proceed with setting up the auth clients.

7 Configure the auth client

Create the auth client in `lib/auth/client.ts` for client-side auth operations (form submissions, hooks, etc.).

> **NOTE**
>
> The server-side `auth` instance was already created in a previous step. The client is separate and handles browser-side auth operations.

lib/auth/client.ts

```
'use client';

import { createAuthClient } from '@neondatabase/auth/next';

export const authClient = createAuthClient();
```

8 Create Sign up form

Lets create a sign-up form and action in `app/auth/sign-up/page.tsx` and `app/auth/sign-up/actions.ts` files respectively using the auth instance we created in previous step

To create user with email and password, we will use `auth.signUp.email()` with user name, email address, and password

You can optionally add business logic before invoking the API, for example restrict signups to emails ending with `@my-company.com`

Signup action | Signup form

Copy and paste following code in `app/auth/sign-up/actions.ts` file:

```
'use server';

import { auth } from '@/lib/auth/server';
import { redirect } from 'next/navigation';

export async function signUpWithEmail(
  _prevState: { error: string } | null,
  formData: FormData
) {
  const email = formData.get('email') as string;

  if (!email) {
    return { error: "Email address must be provided." }
  }

  // Optionally restrict sign ups based on email address
  // if (!email.trim().endsWith("@my-company.com")) {
  //  return { error: 'Email must be from my-company.com' };
  // }

  const { error } = await auth.signUp.email({
    email,
    name: formData.get('name') as string,
    password: formData.get('password') as string,
  });

  if (error) {
    return { error: error.message || 'Failed to create account' };
  }

  redirect('/');
}
```

9 Create Sign in form

Lets create a sign-in form and action in `app/auth/sign-in/page.tsx` and `app/auth/sign-in/actions.ts` files respectively.

> To sign-in the user we will use `auth.signIn.email()` with user's email address and password.

Sign In

Sign-in action Sign-in form

```
'use server';

import { auth } from '@/lib/auth/server';
import { redirect } from 'next/navigation';

export async function signInWithEmail(
  _prevState: { error: string } | null,
  formData: FormData
) {
  const { error } = await auth.signIn.email({
    email: formData.get('email') as string,
    password: formData.get('password') as string,
  });

  if (error) {
    return { error: error.message || 'Failed to sign in. Try again' };
  }
  redirect('/');
}
```

10 Create home page

In last step, lets create the home page and display authenticated user status:

app/page.tsx

```
import { auth } from '@/lib/auth/server';
import Link from 'next/link';

// Server components using auth methods must be rendered dynamically
export const dynamic = 'force-dynamic';

export default async function Home() {
  const { data: session } = await auth.getSession();

  if (session?.user) {
    return (
      <div className="flex flex-col gap-2 min-h-screen items-center justify-center bg-gray-900">
        <h1 className="mb-4 text-4xl">
          Logged in as <span className="font-bold underline">{session.user.name}</span>
        </h1>
      </div>
    );
  }

  return (
    <div className="flex flex-col gap-2 min-h-screen items-center justify-center bg-gray-900">
      <h1 className="mb-4 text-4xl font-bold">Not logged in</h1>
      <div className="flex item-center gap-2">
        <Link
          href="/auth/sign-up"
          className="inline-flex text-lg text-indigo-400 hover:underline"
        >
          Sign-up
        </Link>
        <Link
          href="/auth/sign-in"
          className="inline-flex text-lg text-indigo-400 hover:underline"
        >
          Sign-in
        </Link>
      </div>
    </div>
  );
}
```

11 Start your app

Start the development server:

Open your browser to http://localhost:3000 and test sign-up and sign-in.

> **SAFARI USERS**
>
> Safari blocks third-party cookies on non-HTTPS connections. Use `npm run dev -- --experimental-https` and open `https://localhost:3000` instead.

Terminal

```
npm run dev
```

Available SDK methods

Both `authClient` and `auth` expose similar API methods. Use `authClient` for client components and `auth` for server components, server actions, and API routes.

- authClient.signUp.email() / `auth.signUp.email()` - Create a new user account
- authClient.signIn.email() / `auth.signIn.email()` - Sign in with email and password
- authClient.signOut() / `auth.signOut()` - Sign out the current user
- authClient.getSession() / `auth.getSession()` - Get the current session

Need help?

Join our Discord Server to ask questions or see what others are doing with Neon. For paid plan support options, see Support.

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