

Welcome to `gatsby@4.1.0` release (November 2021 #1)

Key highlights of this release:

- [Support for Deferred Static Generation in File System Route API](#)
- [JSX Runtime Options in `gatsby-config.js`](#)

Also check out [notable bugfixes](#).

Bleeding Edge: Want to try new features as soon as possible? Install `gatsby@next` and let us know if you have any [issues](#).

[Previous release notes](#)

[Full changelog](#)

Support for Deferred Static Generation in File System Route API

With the introduction of Deferred Static Generation (DSG) ([What is DSG?](#)) you can defer non-critical page generation to the first user request. Currently, you can only achieve this by setting `defer: true` in the `createPage` action.

You're now also able to use DSG with [File System Route API](#). For this we're introducing a new API inside File System Route templates that we'll continue to improve: A `config()` function. You'll be able to use it like this:

```
import React from "react"
import { graphql } from "gatsby"

export default function Component(props) {
  return <pre>{JSON.stringify(props, null, 2)}</pre>
}

export async function config() {
  // Get all posts that were created before 2020-10-31
  const { data } = graphql`
    {
      oldPosts: allMarkdownRemark(
        filter: { frontmatter: { date: { lt: "2020-10-31" } } }
      ) {
        nodes {
          fields {
            slug
          }
        }
      }
    }
  `

  // Create a Set for easier comparison/lookup
  const oldPosts = new Set(data.oldPosts.nodes.map(n => n.fields.slug))

  // Return a function that when called will return a config for FS route pages
  // (right now only `defer` is supported)
  return ({ params }) => {
    return {
```

```

    // Defer pages older than 2020-10-31
    defer: oldPosts.has(params.fields__slug),
  }
}

export const pageQuery = graphql`
  query BlogPost($id: String!) {
    markdownRemark(id: { eq: $id }) {
      html
      frontmatter {
        title
        date(formatString: "MMMM DD, YYYY")
        description
      }
    }
  }
`

```

In the async function `config()` you can use GraphQL to query the data layer you're used to. But you don't have to -- you can also use regular JavaScript or skip the outer function completely. `config()` must return a function itself in which you get `params` as an argument. `params` is the same object you also get as `props.params` in the page component (see [params documentation](#)), e.g. `src/pages/{Product.name}.js` has `params.name`.

Here's a minimal version of `config()` that defers every page of the current File System Route template:

```

export async function config() {
  return ({ params }) => {
    return {
      defer: true,
    }
  }
}

```

You can read the [API reference](#) or the [DSG guide](#) to learn more.

Please note: As DSG has no effect in `gatsby develop` at the moment you can only test `config()` in `gatsby build` right now. As this is the first iteration of the `config()` API we're [looking for feedback!](#)

JSX Runtime Options in `gatsby-config.js`

You now can configure the `jsxRuntime` and `jsxImportSource` inside `gatsby-config.js`:

```

module.exports = {
  jsxRuntime: "automatic",
  jsxImportSource: "@emotion/react",
}

```

Setting `jsxRuntime` to `automatic` allows the use of JSX without having to import React (learn more in the [official blog post](#)). You can use the `jsxImportSource` option to set which package React should use as

underlying JSX transformer.

Notable bugfixes & improvements

- We've improved our [Creating a Source Plugin](#) guide to account for changes made in v4
- `gatsby-source-contentful` : The `downloadLocal` option is working correctly again, via [PR #33715](#)
- `gatsby-plugin-image` :
 - Remove flickering and blinking on re-renders, via [PR #33732](#)
 - Fix `GatsbyImage` not displaying image in IE11, via [PR #33416](#)
- `gatsby` :
 - Cache Query Engine & SSR engine (when you use DSG) to improve build times, via [PR #33665](#)
 - Pass `pageContext` to `getServerData()`, via [PR #33626](#)
- `gatsby-remark-images` : Fix figure caption generation when using `GATSBY_EMPTY_ALT`, via [PR #30468](#)
- `gatsby-plugin-sharp` : Pass `failOnError` to sharp when using `gatsby-plugin-image`, via [PR #33547](#)

Contributors

A big **Thank You** to [our community who contributed](#) to this release ❤️

- [bicstone](#): chore(docs): Fix links to old tutorial docs [PR #33605](#)
- [shreemaan-abhishek](#): docs(gatsby): fix grammar issue [PR #33525](#)
- [marijoo](#): chore(gatsby-source-faker): Update README [PR #33606](#)
- [tonyhallett](#)
 - chore(docs): Fixes in schema-generation [PR #33597](#)
 - chore(gatsby): Correct Gatsby SSR APIs types [PR #33581](#)
 - chore(gatsby): Update `api-ssr-docs` [PR #33580](#)
 - chore(docs): Update code link gatsby-internals-terminology [PR #33596](#)
 - chore(gatsby): correct flow typing file-parser [PR #33584](#)
- [codejet](#): chore(gatsby-remark-images): Fix typo in README [PR #33646](#)
- [desirekaleba](#): chore(starters): Fix link to old GraphQL tutorial [PR #33654](#)
- [abhirajkrishnan](#): chore(docs): Fix Broken Link For Headless CMS Definition [PR #33645](#)
- [Mrtenz](#): chore(docs): NodeModel.findAll returns a Promise [PR #33653](#)
- [sarvesh4396](#): chore(gatsby-source-wordpress): Fix typos [PR #33639](#)
- [erikbgithub](#): chore(gatsby-plugin-mdx): Fix grammar [PR #33485](#)
- [Simply007](#): chore(docs): Improve v3->v4 migration guide on `GatsbyIterable` [PR #33666](#)
- [Dgiordano33](#): chore(examples): Swapped to deploy on Gatsby Cloud [PR #33686](#)
- [raresportan](#): fix(gatsby-plugin-image): GatsbyImage not displaying image in IE11 [PR #33416](#)
- [TommasoAmici](#): fix(gatsby-plugin-mdx): mkdirp needs to be listed as a direct depende... [PR #33724](#)
- [redabacha](#): fix(gatsby-plugin-sharp): pass failOnError to sharp in getImageMetadata [PR #33547](#)
- [herecydev](#): feat(gatsby): Add JSX Runtime options to `gatsby-config.js` [PR #33050](#)
- [nategiraudau](#): fix(gatsby-remark-images): GATSBY_EMPTY_ALT figcaption generation [PR #30468](#)
- [Rutam21](#): chore(docs): Improve "Adding a service worker" [PR #33737](#)