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What’s new in Grafana v5.0

This is the most substantial update that Grafana has ever seen. This article will detail the major new features and enhancements.

- New Dashboard Layout Engine([{{< relref “#new-dashboard-layout-engine” >}}](#)) enables a much easier drag, drop and resize experience and new types of layouts.
- New UX([{{< relref “#new-ux-layout-engine” >}}](#)). The UI has big improvements in both look and function.
- New Light Theme([{{< relref “#new-light-theme” >}}](#)) is now looking really nice.
- Dashboard Folders([{{< relref “#dashboard-folders” >}}](#)) helps you keep your dashboards organized.
- Permissions([{{< relref “#dashboard-folders” >}}](#)) on folders and dashboards helps manage larger Grafana installations.
- [Group users into teams]([{{< relref “#teams” >}}](#)) and use them in the new permission system.
- [Data source provisioning]([{{< relref “#data-sources” >}}](#)) makes it possible to set up data sources via config files.
- [Dashboard provisioning]([{{< relref “#dashboards” >}}](#)) makes it possible to set up dashboards via config files.
- [Persistent dashboard URL’s]([{{< relref “#dashboard-model-persistent-url-and-api-changes” >}}](#)) makes it possible to rename dashboards without breaking links.
- Graphite Tags and Integrated Function Docs([{{< relref “#graphite-tags-integrated-function-docs” >}}](#)).

Video showing new features

New Dashboard Layout Engine

[{{< figure src=“/static/img/docs/v50/new_grid.png” max-width=“1000px” class=“docs-image-right”>}}](#)

The new dashboard layout engine allows for much easier movement and sizing of panels, as other panels now move out of the way in a very intuitive way. Panels are sized independently, so rows are no longer necessary to create layouts. This opens up many new types of layouts where panels of different heights can be aligned easily. Check out the new grid in the video above or on the play site. All your existing dashboards will automatically migrate to the new position system

and look close to identical. The new panel position makes dashboards saved in v5.0 incompatible with older versions of Grafana.

New UX

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{{< figure src="/static/img/docs/v50/new_ux_nav.png" max-width="1000px" class="docs-image-right" >}}
```

Almost every page has seen significant UX improvements. All pages (except dashboard pages) have a new tab-based layout that improves navigation between pages. The side menu has also changed quite a bit. You can still hide the side menu completely if you click on the Grafana logo.

Dashboard Settings

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{{< figure src="/static/img/docs/v50/dashboard_settings.png" max-width="1000px" class="docs-image-right" >}}
```

Dashboard pages have a new header toolbar where buttons and actions are now all moved to the right. All the dashboard settings views have been combined with a side nav which allows you to easily move between different setting categories.

New Light Theme

```
{{< figure src="/static/img/docs/v50/new_white_theme.png" max-width="1000px" class="docs-image-right" >}}
```

This theme has not seen a lot of love in recent years and we felt it was time to give it a major overhaul. We are very happy with the result.

Dashboard Folders

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{{< figure src="/static/img/docs/v50/new_search.png" max-width="1000px" class="docs-image-right" >}}
```

The big new feature that comes with Grafana v5.0 is dashboard folders. Now you can organize your dashboards in folders, which is very useful if you have a lot of dashboards or multiple teams.

- New search design adds expandable sections for each folder, starred and recently viewed dashboards.
- New manage dashboard pages enable batch actions and views for folder settings and permissions.
- Set permissions on folders and have dashboards inherit the permissions.

Teams

A team is a new concept in Grafana v5. They are simply a group of users that can be used in the new permission system for dashboards and folders. Only an

admin can create teams. We hope to do more with teams in future releases like integration with LDAP and a team landing page.

Permissions

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{{< figure src="/static/img/docs/v50/folder_permissions.png" max-width="1000px" class="docs-image-right" >}}
```

You can assign permissions to folders and dashboards. The default user role-based permissions can be removed and replaced with specific teams or users enabling more control over what a user can see and edit.

Dashboard permissions only limits what dashboards and folders a user can view and edit not which data sources a user can access nor what queries a user can issue.

Provisioning from configuration

In previous versions of Grafana, you could only use the API for provisioning data sources and dashboards. But that required the service to be running before you started creating dashboards and you also needed to set up credentials for the HTTP API. In v5.0 we decided to improve this experience by adding a new active provisioning system that uses config files. This will make GitOps more natural as data sources and dashboards can be defined via files that can be version controlled. We hope to extend this system to later add support for users, orgs and alerts as well.

Data sources

Data sources can now be set up using config files. These data sources are by default not editable from the Grafana GUI. It's also possible to update and delete data sources from the config file. More info in the data source provisioning docs.

Dashboards

We also deprecated the `[dashboard.json]` in favor of our new dashboard provisioner that keeps dashboards on disk in sync with dashboards in Grafana's database. The dashboard provisioner has multiple advantages over the old `[dashboard.json]` feature. Instead of storing the dashboard in memory we now insert the dashboard into the database, which makes it possible to star them, use one as the home dashboard, set permissions and other features in Grafana that expects the dashboards to exist in the database. More info in the [dashboard provisioning docs]({{< relref "../administration/provisioning.md" >}})

Graphite Tags and Integrated Function Docs

```
{{< figure src="/static/img/docs/v50/graphite_tags.png" max-width="1000px"
class="docs-image-right" >}}
```

The Graphite query editor has been updated to support the latest Graphite version (v1.2) that adds many new functions and support for querying by tags. You can now also view function documentation right in the query editor!

Read more on Graphite Tag Support.

Dashboard model, persistent URLs and API changes

We are introducing a new unique identifier (`uid`) in the dashboard JSON model. It's automatically generated if not provided when creating a dashboard and will have a length of 9-12 characters.

The unique identifier allows having persistent URLs for accessing dashboards, sharing them between instances and when using dashboard provisioning. This means that dashboard can be renamed without breaking any links. We're changing the URL format for dashboards from `/dashboard/db/:slug` to `/d/:uid/:slug`. We'll keep supporting the old slug-based URLs for dashboards and redirects to the new one for backward compatibility. Please note that the old slug-based URLs have been deprecated and will be removed in a future release.

Sharing dashboards between instances becomes much easier since the `uid` is unique (unique enough). This might seem like a small change, but we are incredibly excited about it since it will make it much easier to manage, collaborate and navigate between dashboards.

API changes

New uid-based routes in the dashboard API have been introduced to retrieve and delete dashboards. The corresponding slug-based routes have been deprecated and will be removed in a future release.