Cheat Sheet: Deployment on KNIME Business Hub

Open for Innovation KNIME

Execution and deployment on KNIME Business Hub

You can execute and deploy workflows on Business Hub using its **execution resources.**

To execute and deploy workflows on Business Hub, a team needs to have an **execution context**. Execution context provides execution resources with configured settings defining hardware and Analytics Platform configuration. Different execution contexts can be created by a team admin and either belong to a team, or be shared across teams.

Each workflow execution will create a debuggable **job** (a workflow copy) with the respective execution status.

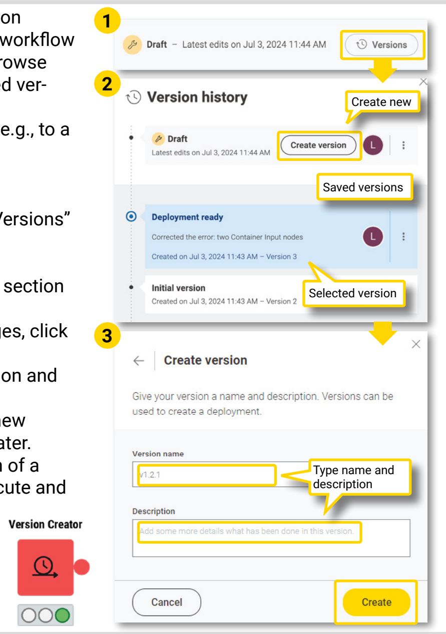
Version control

Create and browse versions

KNIME Business Hub supports version control. You can save a version of a workflow or a component after modifying it, browse through versions, and access a saved version at any point of time.
Once you make changes to an item, e.g., to a workflow, create a new version of it:

From a web browser
1. On the workflow page, click the "Versions" button,
2. In the "Version history" menu:
   a. New changes are shown in the section "Draft",
   b. To save the unversioned changes, click the "Create version" button,
   c. Provide a name and a description and click the "Create" button,
   d. The changes are saved in the new version and can be accessed later.
3. Once you select a specific version of a workflow, you can download, execute and deploy it.

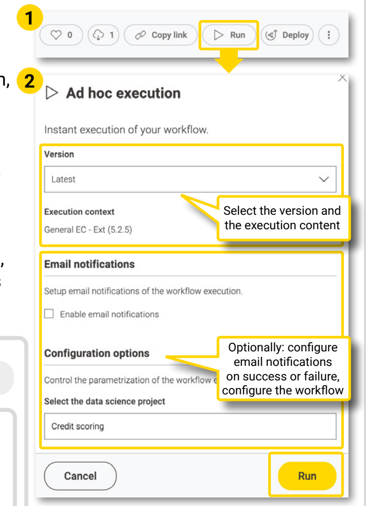
Note. You can create a version automatically from a workflow using the "Version Creator" node.



Ad hoc execution

For a one time ad hoc execution of a workflow, for example, for testing:

From a web browser
1. On the workflow page, click the "Run" button,
2. In the "Ad hoc execution" menu:
   a. Select the version and the execution context, and, if needed, enable email notifications and configure the workflow,
   b. Click the "Run" button.
4. The workflow will be executed immediately and the new execution will be created in section "Ad hoc jobs" on the workflow page,
5. You can see the execution result and status in the newly opened browser tab.

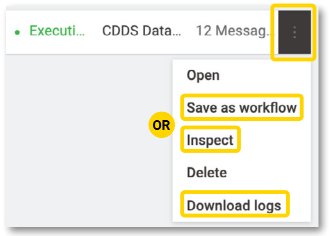


Debug a job

To debug a job on the KNIME Business Hub:

From a web browser
1. On the workflow page in section "Deployments" or "Ad hoc jobs" (or on the team page in section "Deployments"), navigate to a job and click the three dots menu,
2. Select "Inspect" to investigate the executing workflow directly in the browser,
3. OR select "Save as a workflow" to edit and manually execute the workflow from KNIME Analytics Platform
   - In the "Save job as workflow" menu, provide the workflow name, and the team and the space where it should be saved,
   - Click the "Save button".

Note. You can also download logs.



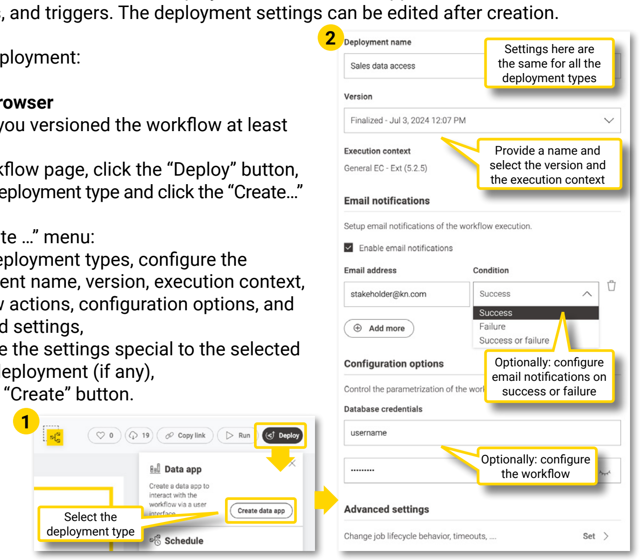
Deploy

Create a deployment

Once you developed, tested, uploaded, and versioned your workflow, you are ready to deploy it. KNIME Business Hub allows to deploy workflows as data apps, automated schedules, REST services and triggers. The deployment settings can be edited after creation.

To create a deployment:

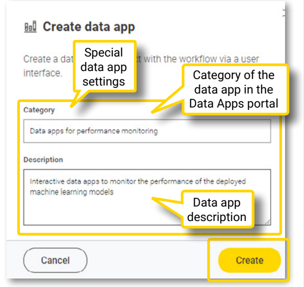
From a web browser
1. Make sure you versioned the workflow at least once,
2. On the workflow page, click the "Deploy" button,
3. Select the deployment type and click the "Create…" button,
4. In the "Create …" menu:
   a. For all deployment types, configure the deployment name, version, execution context, workflow actions, configuration options, and advanced settings,
   b. Configure the settings special to the selected type of deployment (if any),
   c. Click the "Create" button.



Data app deployment

To create a web application that interacts with the workflow via a user interface, for example, to create an interactive report or a dashboard used on demand, deploy the workflow as a data app.
In the "Create data app" menu, configure:
- the category of the data app in the Data App Portal,
- data app description.

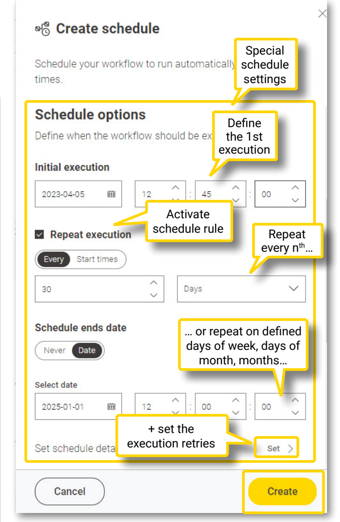
Note. You can also deploy a workflow as a data app automatically from a workflow using the "Data App Deployment Creator" node.



Schedule deployment

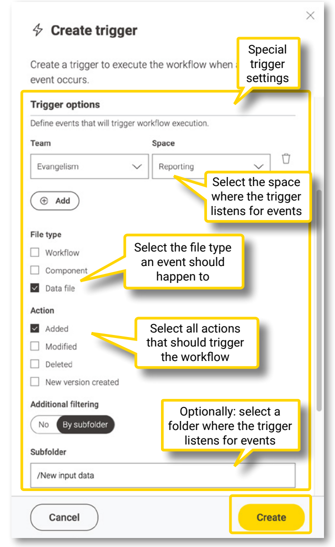
If you need to automate workflow execution at selected times, for example, to regularly load data to a data repository, deploy it as a schedule.
In the "Create schedule" menu, configure the schedule options:
- date and time of the initial execution,
- whether and how to repeat the execution,
- schedule end,
- execution retries.

Note. The schedule can be paused after the deployment creation.



Trigger deployment

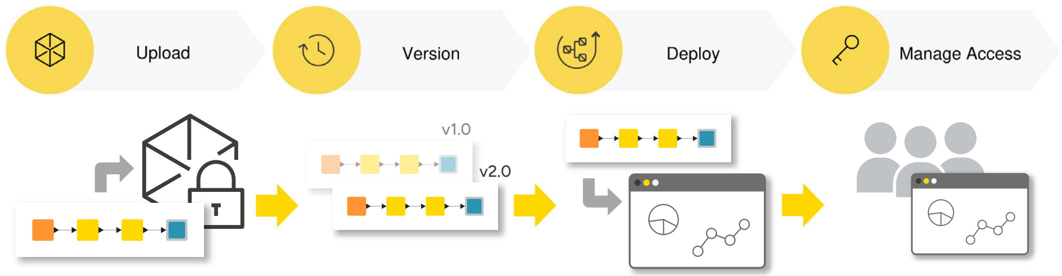
To trigger the workflow execution when an event takes place, for example, to trigger prediction computation when a new request file appears in a Business Hub space, deploy the workflow as a trigger.
In the "Create trigger" menu, configure the trigger options:
- the team, and (optionally) the subfolder where the trigger should listen for events,
- file types an event should happen to,
- all the actions to files that should trigger the workflow execution.



Service deployment

In order to create an API endpoint that can be used to send REST requests to the workflow from external clients, for example, to get real time predictions on a website, deploy the workflow as a service.
In the "Create service" menu, configure the general settings. This type of deployment doesn't have special settings.

Note. You can also deploy a workflow as a service automatically from a workflow using the "Service Deployment Creator" node.

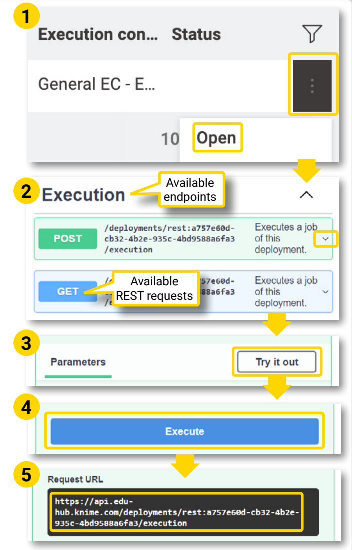


Access a service deployment

To execute a workflow deployed as a service, you need to send a REST request to this service. For that, you need the service request URL and an application password.

To access a request URL of the service:

From a web browser
1. In the "Deployments" section on the workflow or on the team page, navigate to the service deployment and click the three dots menu,
2. Select "Open". The new page with the service endpoints opens,
3. In the section "Execution", select the type of request and expand it.
   a. Click the "Try it out" button, if needed, change the parameters, and click the "Execute" button,
   b. Copy the request URL.

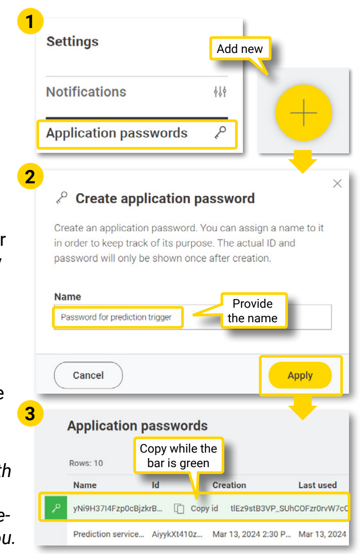


To create an application password:

From a web browser
1. On the profile page, select "Settings" and "Application passwords",
2. Click the "Create application password" button,
3. Enter a name and click the "Apply" button,
4. Copy the ID and the password while the password bar is still green. This is the only time they are shown.

With the request URL and the application password you can send a REST request to the workflow deployed as a service from any external client.

Note. To be able to send a REST request to a service with your application password, the deployment should be created by you or shared with you.



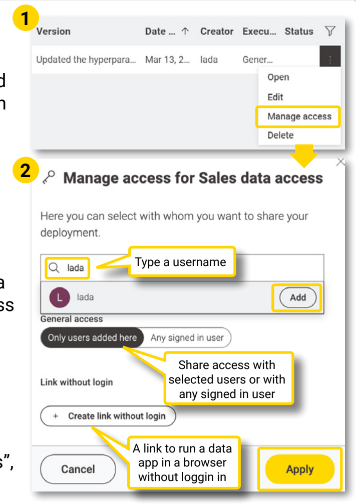
Access deployments and execute

Deployment permissions

All the deployments created by the team can be accessed by all the team members. The service and data app deployments can be accessed by non-team members with whom a deployment is shared. A data app can be shared publicly.

From the "Deployments" section on a workflow or a team page, manage access to the deployment:

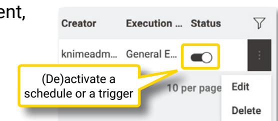
From a web browser
1. Select the deployment and click on the three dots menu,
2. Select "Manage access",
3. In the "Manage access for …" menu:
   - Decide whether to share access with a selected group of users or with any signed in user,
   - To add a user, enter a username and click the "Add" button; to delete, click the bin icon,
   - For data apps: if needed, create a link to share the data app publicly,
   - Click the "Apply" button.



Access a schedule and a trigger deployment

Schedule and trigger deployments are executed based on the schedule and on the event, respectively. You can access them, e.g., to edit or to pause.

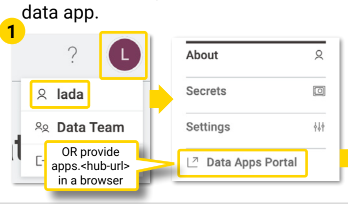
From a web browser
1. In the "Deployments" section on the workflow or on the team page, navigate to the deployment and click the switch to pause or activate the deployment.

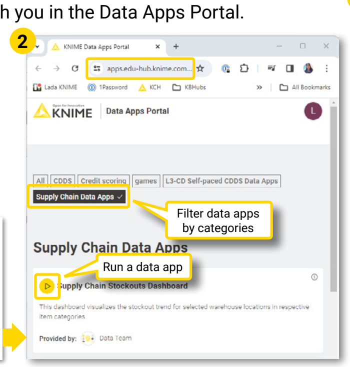


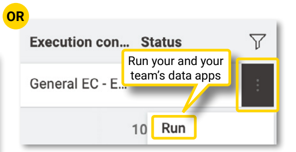
Access a data app deployment

Running a data app deployment opens the data app and allows you to interact with the deployed workflow via a user interface.

From a web browser
You can access the data apps shared with you in the Data Apps Portal.
1. On your profile page, select "Data Apps Portal",
2. The Data Apps Portal with all the data apps shared with you opens. Scroll directly to the data app you need or use the category filter first,
3. Click on the "Play" button to run the data app.







Note. You can also run data apps created by you and your team from the "Deployments" section on the workflow or on the team page. For that, navigate to the deployment, click the three dots menu, and select "Run".

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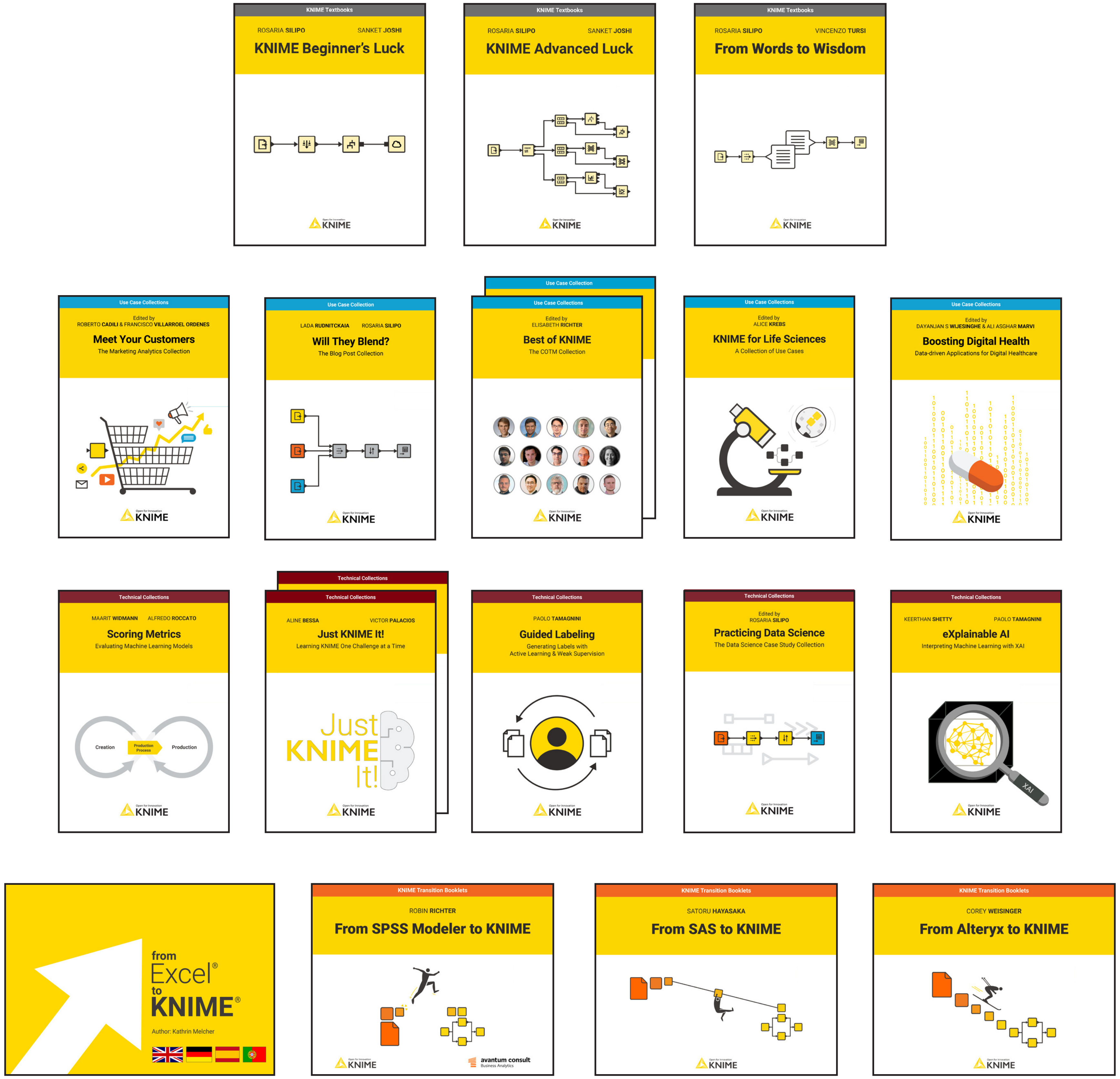

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