

## Broad Functionality: Model Registry and Centralized Monitoring Dashboard

### Principle: Governance

Understanding Functionality: MLflow should automatically keep a track of versions for registered models when updated for different stages i.e., staging and production. Should also log metadata of the models like user id, project id, environment, last modified date, and environment. It should also maintain the aforementioned details of different versions of the logically same decision-making models. Since at times, a model might reach production with an issue, potentially non-trivial, in such a case, the production model should be rolled back to the prior version. Until a new version is ready.

### Does MLflow supports the functionality *directly*: Yes

- Explanation: An MLflow Model that has been registered with the Model Registry. The registered model has a unique name, versions, model lineage, user id, request details, comments & tags with the request and description if maintained while raising the request. MLflow also provides a centralized dashboard for all the models to compare different parameters and metrics among different versions.
- Extra remark: An MLflow Model logged from an experiment or that has been run with one of the model flavor's MLflow.<model-flavor>.log\_model methods, you have registered the model with the Model Registry now. A registered model will always have a unique name, version, and other metadata. The model version of the model keeps on incrementing by 1 on redeploying the model with the same name. A Model version can be assigned to one or more stages of the project, could be None, Archived, Staging, or Production. Stage of the model can be transitioned or can be requested for transition, like from staging to production.

### Does MLflow supports the functionality *indirectly*: NA

### Screenshots for MLflow supports the functionality *directly* or *indirectly*:

The screenshot displays the MLflow Model Registry interface for a model named 'IRIS\_pred\_model'. At the top, there are tabs for 'Details' and 'Serving', with 'Details' being the active tab. Below the tabs, there is a notification bell icon and a dropdown menu set to 'All new activity'. The model's metadata is shown: 'Created Time: 2022-01-28 13:11:14', 'Last Modified: 2022-02-10 19:50:00', and 'Creator: sbaronia@purdue.edu'. There are also buttons for 'Description', 'Edit', 'Tags', and 'Versions'. The 'Versions' section is expanded, showing a table of model versions. The table has columns for 'Version', 'Registered at', 'Created by', 'Stage', 'Pending Requests', and 'Description'. Three versions are listed: Version 10 (None stage), Version 9 (Production stage), and Version 8 (Archived stage).

Version	Registered at	Created by	Stage	Pending Requests	Description
Version 10	2022-02-10 19:50:00	sbaronia@purdue.edu	None	—	
Version 9	2022-02-03 18:02:16	sbaronia@purdue.edu	Production	—	
Version 8	2022-02-01 12:43:24	sbaronia@purdue.edu	Archived	—	

IRIS\_pred\_model

Permissions

Use model for inference

DetailsServing

Notify me aboutAll new activity

Created Time: 2022-01-28 13:11:14Last Modified: 2022-02-10 19:50:00Creator: sbaronia@purdue.edu

DescriptionEdit

None

Tags

Name	Value	Actions
No tags found.		
<input type="text"/>	<input type="text"/>	<input type="button" value="Add"/>

DetailsServing

Notify me aboutAll new activity

Created Time: 2022-01-28 13:11:14Last Modified: 2022-02-10 19:50:00Creator: sbaronia@purdue.edu

DescriptionEdit

Tags

Versions

AllActive 1

Compare

	Version	Registered at	Created by	Stage	Pending Requests	Description
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Version 10	2022-02-10 19:50:00	sbaronia@purdue.edu	None	-	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Version 9	2022-02-03 18:02:16	sbaronia@purdue.edu	Production	-	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Version 8	2022-02-01 12:43:24	sbaronia@purdue.edu	Archived	-	