

Information Retrieval

Exercise – Winter term 2025/2026

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Agenda

1. TIRA Account
2. TIRA Token
3. TIRA Dry Run
4. TIRA Submission

Assignment

- ❑ Implement one or more retrieval systems
- ❑ **Due Date:** Monday, 15.12.2025, 23:59
- ❑ **Deliverable:** TIRA submission(s)

TIRA Account

TIRA Integrated Research Architecture

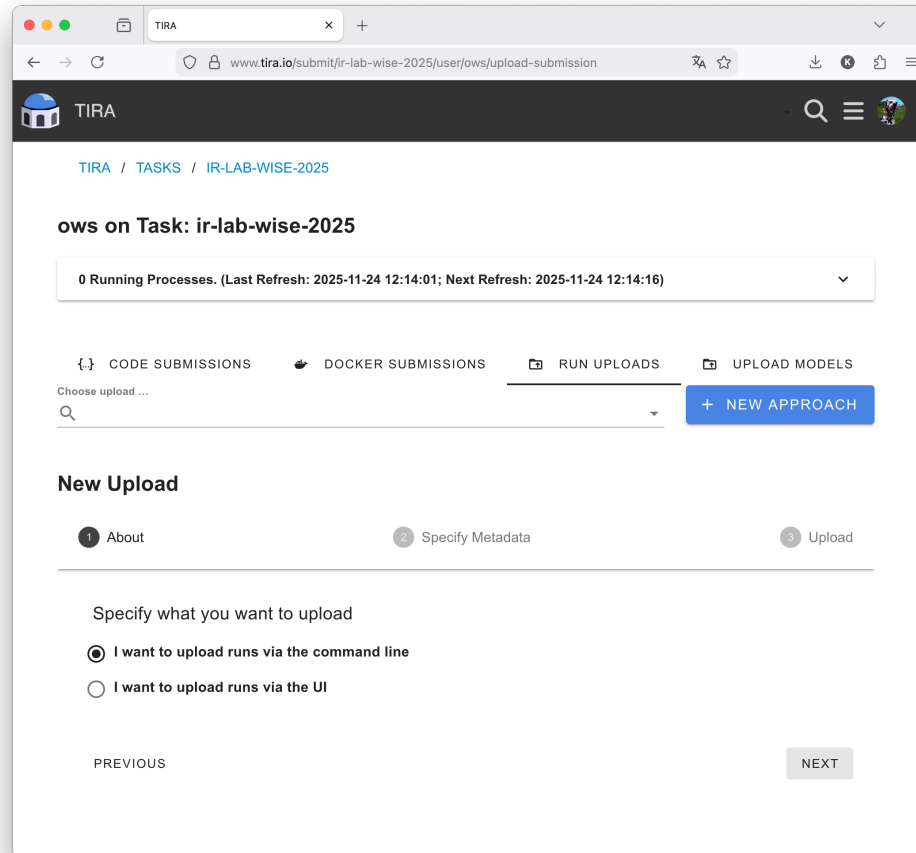
1. Sign up to **TIRA**.
 - You may use `Login in with GitHub`.
2. Go to `GET STARTED`.
3. Go to `IR Lab Jena/Kassel/Radboud WiSe 2025`.
4. Register your team.

If the team is already registered, any additional member must be added by the student who initially registered the team via **TIRA**.

TIRA Token

Upload Runs

(1) Go to IR Lab Jena/Kassel/Radboud WiSe 2025, (2) click on SUBMIT.



The screenshot shows a web browser window with the URL `www.tira.io/submit/ir-lab-wise-2025/user/ows/upload-submission`. The page header includes the TIRA logo and navigation links. The main content area displays 'ows on Task: ir-lab-wise-2025' and a status bar indicating '0 Running Processes'. Below this, there are tabs for 'CODE SUBMISSIONS', 'DOCKER SUBMISSIONS', 'RUN UPLOADS', and 'UPLOAD MODELS'. The 'RUN UPLOADS' tab is active, showing a 'Choose upload ...' dropdown and a '+ NEW APPROACH' button. The 'New Upload' section features a progress bar with three steps: '1 About', '2 Specify Metadata', and '3 Upload'. The 'Specify Metadata' step is currently active, showing two radio button options: 'I want to upload runs via the command line' (selected) and 'I want to upload runs via the UI'. At the bottom, there are 'PREVIOUS' and 'NEXT' buttons.

Display personal token for uploading runs to TIRA by clicking on NEXT.

TIRA CLI

The **TIRA CLI** is included in the Python-based **TIRA** client.

To install it, simply install the **TIRA** client via: `pip install tira`.

```
klara@ws04 pyterrier-baseline % tira-cli --help
usage: tira-cli [-h] [-v] {download,upload,evaluate,login,verify-installation,code-submission,dataset-submission} ...

positional arguments:
  {download,upload,evaluate,login,verify-installation,code-submission,dataset-submission}
    download            Download runs or datasets from TIRA.io
    upload              Upload runs or datasets to TIRA.io
    evaluate            Evaluate runs locally.
    login               Login your TIRA client to the tira server.
    verify-installation Verify that your local TIRA client is correctly installed.
    code-submission     Make a code submission via Docker from a git repository.
    dataset-submission  Submit a new task/dataset to tira.

options:
  -h, --help            show this help message and exit
  -v, --version          show program's version number and exit
```

TIRA CLI help page ^{*}.

```
PROBLEME 5  AUSGABE  TERMINAL  ...  zsh - template-new-approach + v [ ] [ ] ... | [ ] [ ] x

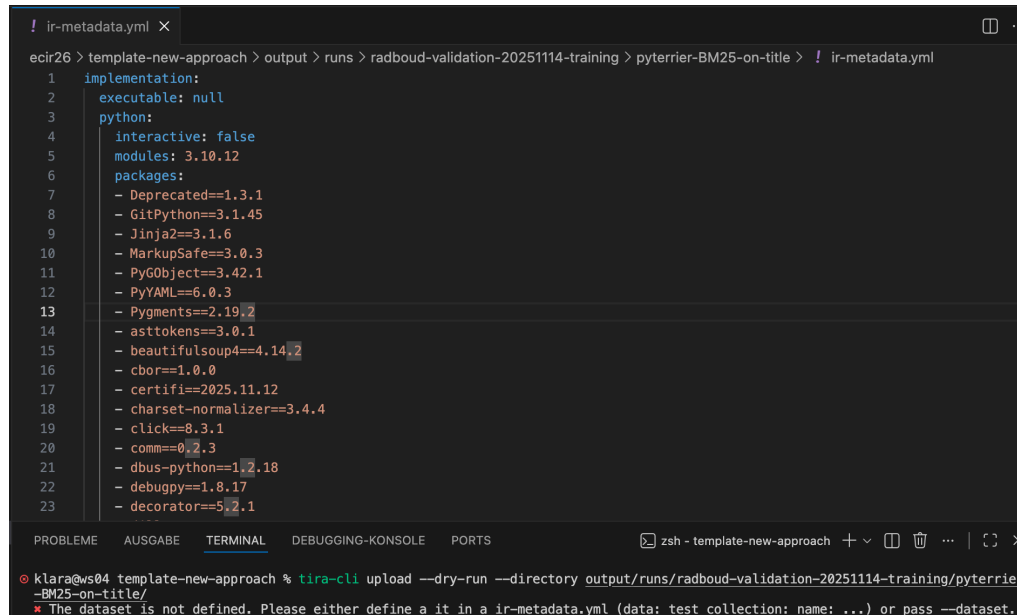
klara@ws04 template-new-approach % pwd
/Users/klara/Developer/Uni/WS2526/wows-code-ws2526/ecir26/template-new-approach
klara@ws04 template-new-approach % ls output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title
ir-metadata.yml run.txt.gz
```

Ensure that the directory you upload follows the expected submission structure described in the [\[README\]](#) file.

^{*} As of 09.12.2025, **TIRA** version 0.0.193.

TIRA Dry Run

Verify your submission



```
! ir-metadata.yml X
ecir26 > template-new-approach > output > runs > radboud-validation-20251114-training > pyterrier-BM25-on-title > ! ir-metadata.yml
1  implementation:
2      executable: null
3      python:
4          interactive: false
5          modules: 3.10.12
6          packages:
7              - Deprecated==1.3.1
8              - GitPython==3.1.45
9              - Jinja2==3.1.6
10             - MarkupSafe==3.0.3
11             - PyGObject==3.42.1
12             - PyYAML==6.0.3
13             - Pygments==2.19.2
14             - asttokens==3.0.1
15             - BeautifulSoup4==4.14.2
16             - cbor==1.0.0
17             - certifi==2025.11.12
18             - charset-normalizer==3.4.4
19             - click==8.3.1
20             - comm==0.2.3
21             - dbus-python==1.2.18
22             - debugpy==1.8.17
23             - decorator==5.2.1

PROBLEME  AUSGABE  TERMINAL  DEBUGGING-KONSOLE  PORTS
Klara@ws04 template-new-approach % tira-cli upload --dry-run --directory output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title/
* The dataset is not defined. Please either define a it in a ir-metadata.yml (data: test collection: name: ...) or pass --dataset.
```

Example for error upon invalid `ir-metadata.yml` file.

Placeholders for missing content of file is defined in the [\[submission-skeleton\]](#).

TIRA Dry Run

Verify your submission

```
! ir-metadata.yml ×
ecir26 > template-new-approach > output > runs > radboud-validation-20251114-training > pyterrier-BM25-on-title > ! ir-metadata.yml
1  method:
2    description: |
3      This approach uses PyTerrier's BM25 implementation to retrieve documents based on their titles.
4      The BM25 parameters are set to their default values.
5      The retriever is configured to operate on the title field of the documents in the Radboud validation collection.
6    name: pyterrier-BM25-on-title
7
8  actor:
9    team: ows
10
11 data:
12   test collection:
13     name: radboud-validation-20251114-training
14
15 platform:
16   software:
17     # Which software and tools did you use for training, tuning and running your system?
18     # You can maintain the software that you used manually.
19     # Alternatively, you can use repro_eval or the tirex_tracker to track this.
20     libraries:
21       - pyterrier
22
23 implementation:
24
25 PROBLEME  AUSGABE  TERMINAL  DEBUGGING-KONSOLE  PORTS
26 klara@ws04 template-new-approach % tira-cli upload --dry-run --directory output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title/
27 I check that the submission in directory 'output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title/' is valid..
28 ✓ I will check that the data in output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title is valid ...
29 ✓ The run in directory output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title is valid.
30 ✓ The file ir-metadata.yml is valid.
31
32 Result:
33 ✓ The run is valid. I skip upload to TIRA as --dry-run was passed.
```

Example for valid `ir-metadata.yml` file.

If `tira-cli upload --dry-run` fails, log in first using `tira-cli login --token <YOUR-KEY>`. You can find `<YOUR-KEY>` as described on the slide “TIRA Token”.

TIRA Submission

Upload your solution

Make sure that your `ir-metadata.yml` file specifies `<YOUR-TEAM-NAME>` as the value for “actor: team:” (cf. previous slide).

```
klara@ws04 template-new-approach % tira-cli upload --dataset radboud-validation-20251114-training --directory output/runs/radbou
d-validation-20251114-training/pyterrier-BM25-on-title/
I check that the submission in directory 'output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title/' is valid...
✓ I will check that the data in output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title is valid ...
✓ The run in directory output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title is valid.
✓ The file ir-metadata.yml is valid.

Upload output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title to TIRA: 100%|█| 1.19M/1.19M [00:01<00:00, 634kB

✓ The data is uploaded.

I upload the metadata for the submission...
✓ Done. Your run is available as pyterrier-BM25-on-title at:
https://www.tira.io/submit/ir-lab-wise-2025/user/ows/upload-submission
```

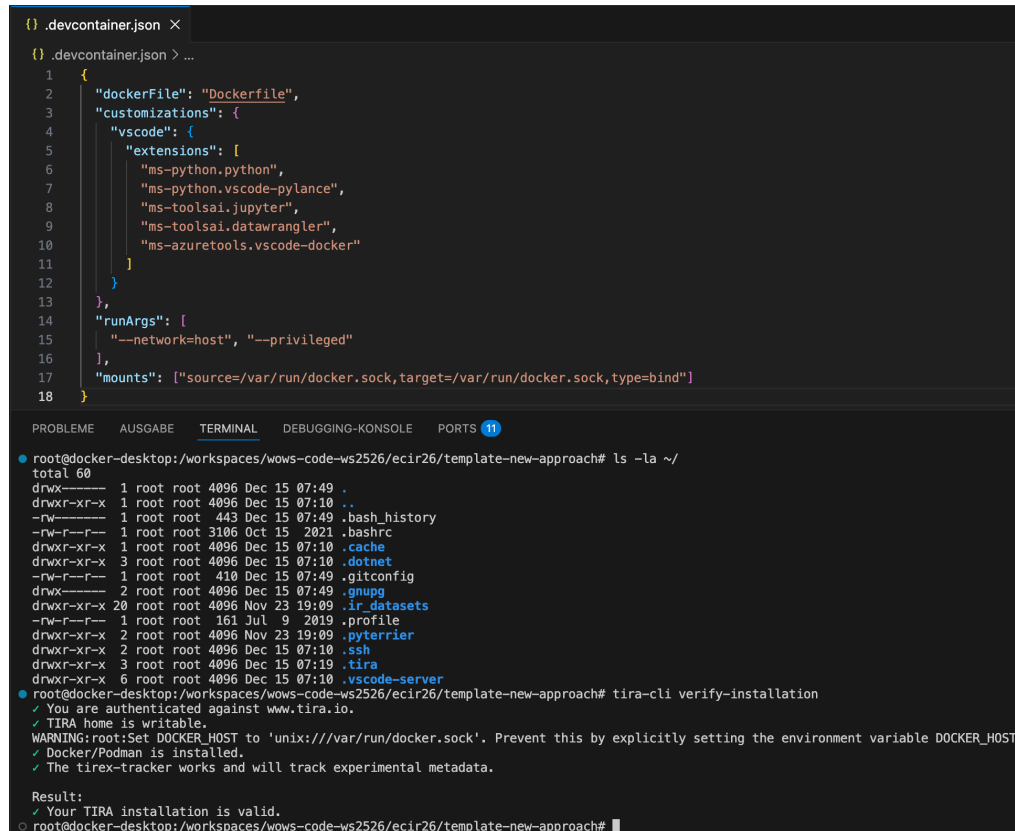
Upload a valid submission following the steps described in the **TIRA** submission instructions.

You can find guidance on where to access the **TIRA** submission instructions on the slide “TIRA Token”.

TIRA

Inside the Dev Container

All commands demonstrated on the previous slide were executed outside the dev container. To run commands from within the dev container, you need to update the `.devcontainer.json` file, reload the container, and create the `.tira` directory.



```
{
  "dockerFile": "Dockerfile",
  "customizations": {
    "vscode": {
      "extensions": [
        "ms-python.python",
        "ms-python.vscode-pylance",
        "ms-toolsai.jupyter",
        "ms-toolsai.datawrangler",
        "ms-azuretools.vscode-docker"
      ]
    }
  },
  "runArgs": [
    "--network=host",
    "--privileged"
  ],
  "mounts": [
    {
      "source": "/var/run/docker.sock",
      "target": "/var/run/docker.sock",
      "type": "bind"
    }
  ]
}
```

```
root@docker-desktop:/workspaces/wows-code-ws2526/ecir26/template-new-approach# ls -la ~/
total 60
drwx----- 1 root root 4096 Dec 15 07:49 .
drwxr-xr-x 1 root root 4096 Dec 15 07:10 ..
-rw----- 1 root root 443 Dec 15 07:49 .bash_history
-rw-r--r-- 1 root root 3196 Oct 15 2021 .bashrc
drwxr-xr-x 1 root root 4096 Dec 15 07:10 .cache
drwxr-xr-x 3 root root 4096 Dec 15 07:10 .dotnet
-rw-r--r-- 1 root root 410 Dec 15 07:49 .gitconfig
drwx----- 2 root root 4096 Dec 15 07:49 .gnupg
drwxr-xr-x 20 root root 4096 Nov 23 19:09 .ir_datasets
-rw-r--r-- 1 root root 161 Jul 9 2019 .profile
drwxr-xr-x 2 root root 4096 Nov 23 19:09 .pytherrier
drwxr-xr-x 2 root root 4096 Dec 15 07:10 .ssh
drwxr-xr-x 3 root root 4096 Dec 15 07:19 .tira
drwxr-xr-x 6 root root 4096 Dec 15 07:10 .vscode-server

root@docker-desktop:/workspaces/wows-code-ws2526/ecir26/template-new-approach# tira-cli verify-installation
✓ You are authenticated against www.tira.io.
✓ TIRA home is writable.
WARNING:root:Set DOCKER_HOST to 'unix:///var/run/docker.sock'. Prevent this by explicitly setting the environment variable DOCKER_HOST.
✓ Docker/Podman is installed.
✓ The tirex-tracker works and will track experimental metadata.

Result:
✓ Your TIRA installation is valid.
root@docker-desktop:/workspaces/wows-code-ws2526/ecir26/template-new-approach#
```

Additional mounts in the `.devcontainer.json` file and the required `.tira` directory.