Laboratorium

- Tutorial: Setting Up a Collaborative Jupyter Lab
- Persiapan Praktikum Semester Baru
    - Surat Menyurat
    - Template EMAS

Tutorial: Setting Up a Collaborative Jupyter Lab

This tutorial outlines the steps to set up a collaborative Jupyter Lab environment for multiple users. Make sure to follow each step carefully.

A. Initial Preparation

1. **Create a Tmux Session:**
   - Open your terminal and run the command: `tmux new -t your_session_name` (replace "your_session_name" with your desired name).
   - **What is Tmux?**
     - It keeps your terminal session active even if the SSH connection is lost.
     - It allows you to access the terminal session from different locations.
   - **Important Tmux commands:**
     - To exit the session: Press `Ctrl+b` then `d`.
     - To re-enter the session: `tmux a -t your_session_name`.
   - For more information on tmux, visit: https://tmuxcheatsheet.com/
2. **Create a Conda Environment:**
   - Ask all users for the required Python version.
   - Create a conda environment with the command: `conda create -n your_env_name python=python_version` (replace "your_env_name" and "python_version" accordingly).
     - Example: `conda create -n collaboration python=3.9`
   - Activate the environment: `conda activate your_env_name`
3. **Create a Working Directory:**
   - Create a new directory to store your collaborative project. You can use the initials of each team member or person (e.g., NF, MH, RDWP).
   - Command: `mkdir your_directory_name`
   - Enter the directory: `cd your_directory_name`

B. Installing and Configuring Jupyter Lab

4. **Install Jupyter Lab and Jupyter-Collaboration:**
   - Ensure that the conda environment you created earlier is active.
   - Install Jupyter Lab and Jupyter-Collaboration: `pip install jupyter jupyter-collaboration`
   - Alternatively: Install them when creating the conda environment by adding `jupyter jupyter-collaboration` to the end of the `conda create` command.
5. **Run Collaborative Jupyter Lab:**
   - Run the following command in the terminal: `jupyter lab --collaborative --allow-root --no-browser --ip=0.0.0.0 --port your_desired_port`
   - Replace "your_desired_port" with the port number you want to use.

6. **Save the Jupyter Token:**
    - After running the command above, a link containing a token will appear.
    - **IMPORTANT:** Save this token securely. Other people can access your Jupyter Lab if they know this token.

C. Tunnel Configuration and Jupyter Lab Access

7. **Provide Jupyter Lab Details:**
    - Inform the tunnel administrator (in this case, Naufal Faza) of the following information:
        - The name of the PC where Jupyter Lab is running.
        - The port number used.
        - The requested subdomain (if any).
        - Example: `uas-ai.digilabdte.com`, the subdomain is `uas-ai`.
8. **Access Jupyter Lab:**
    - After the tunnel administrator has completed the configuration, you will be given a link to access Jupyter Lab.
    - The link will look like this: `your_requested_subdomain.digilabdte.com/lab?token=your_token_value`.
    - Don't forget to enter the token you obtained in step 6.
9. **Start Collaborating:**
    - Inside Jupyter Lab, you can access the terminal and monitor resource usage with `nvtop`.
    - Make sure to coordinate with your team via group chat to avoid conflicts when running programs. Remember that Jupyter Lab is like Google Docs, so collaboration is real-time.

Persiapan Praktikum Semester Baru

Persiapan Praktikum Semester Baru

Surat Menyurat

Template EMAS

Header EMAS 1 - Literal Header

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src="https://emas3.ui.ac.id/draftfile.php/2625380/user/draft/495439476/Logo.png" alt="Logo"
width="256" height="256" class="img-fluid atto_image_button_text-top"></p>
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<h2 style="text-align: center;"><b style="font-size: 2.46rem;">PRAKTIKUM DASAR SISTEM
DIGITAL</b></h2>
<h2 style="text-align: center;"><b style="font-size: 2.46rem;">TEKNIK KOMPUTER
REGULER </b></h2>
<h2 style="text-align: center;"><b style="font-size: 2.46rem;">SEMESTER GANJIL
2025/2026</b></h2>
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<p></p>
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Header EMAS 2 - Informasi Header

```
<table width="100%" border="0" cellspacing="0" cellpadding="20">
    <tbody>
        <tr>
            <td valign="top" width="50%">
                <h3>Kepala Laboratorium :</h3>
                <ul>
                    <li>Dr. Eng. Mia Rizkinia, S.T., M.T.</li>
                </ul>

                <h3>Koordinator Laboratorium :</h3>
                <ul>
                    <li>Giovan Christoffel Sihombing (GI)</li>
                </ul>

                <h3>Koordinator Praktikum :</h3>
                <ul>
                    <li>Novan Agung Wicaksono (NA)</li>
```

```
    </ul>

    <h3>Laboratory Assistant :</h3>
    <ol>
        <li>Giovan Christoffel Sihombing (GI)</li>
        <li>Evandita Wiratama Putra (EZ)</li>
        <li>Edgrant Henderson Suryajaya (ED)</li>
        <li>Phoebe Ivana (PI)</li>
        <li>Wendy Dharmawan (WN)</li>
        <li>Nicholas Samosir (NS)</li>
        <li>Ivan Yuantama Pradipta (YP)</li>
        <li>Bryan Herdianto (BH)</li>
        <li>Christian Hadiwijaya (CH)</li>
        <li>Daffa Sayra Firdaus (DS)</li>
        <li>Jesaya David Gamalael Nickhelsen Panggabean (JD)</li>
        <li>Muhammad Nadzhif Fikri (MF)</li>
        <li>Alexander Christhian (AX)</li>
        <li>Muhammad Riyan Satrio Wibowo (RE)</li>
        <li>Novan Agung Wicaksono (NA)</li>
        <li>Nabil Putra Nurfariz (NZ)</li>
        <li>Muhammad Dhiya'ulhaq (DY)</li>
        <li>Carlsson Khovis (KH)</li>
        <li>Khalisa Zahra Maulana (KZ)</li>
    </ol>
</td>

<td valign="top" width="50%">
    <h3>Modul Praktikum</h3>
    <ol>
        <li>Introduction to Digital Circuit</li>
        <li>Boolean Algebra &amp;amp; Basic Logic Gates</li>
        <li>Karnaugh Map</li>
        <li>Complex Logic Gates</li>
        <li>Decoder &amp;amp; Encoder</li>
        <li>Multiplexer &amp;amp; Demultiplexer</li>
        <li>Arithmetic Circuit</li>
        <li>Flip-Flop &amp;amp; Latch</li>
        <li>Register &amp;amp; Counter</li>
        <li>Proyek Akhir</li>
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```

```
                <h3>Lab Activities Assessment Weight</h3>
                <ul>
                    <li>Tugas Pendahuluan (TP) : 30%</li>
                    <li>Case Study (CS) : 50%</li>
                    <li>Tugas Tambahan (TT) : 20%</li>
                </ul>

                <h3>Contacts</h3>
                <ul>
                    <li>OA Line : @digilabui</li>
                    <li>Instagram : <a href="https://www.instagram.com/digilabui/"
target="_blank">@digilabui</a></li>
                    <li>YouTube : <a
href="https://www.youtube.com/@digitallaboratorydteftui811" target="_blank">Digital Laboratory
UI</a></li>
                </ul>
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