0.1 PREREQUISITES & ACCOUNTS

Welcome to Day 0 of the **watsonx Workshop Series** 👋

This is our “pre-flight check” session. The goal is simple: by the end of this module, you’ll know exactly what you need (laptop, software, cloud accounts, repos) so that Day 1 can be 100% hands-on instead of 100% debugging.

AUDIENCE & WORKSHOP OVERVIEW

This workshop is designed for:

- **Data scientists & ML engineers** who want to go from “LLM playground” to RAG and agents in production.
- **Developers & architects** who need to connect LLMs to real systems (APIs, data stores, governance).
- **Technical leaders** evaluating how watsonx.ai, local LLMs (Ollama), and a RAG accelerator fit into their stack.

You don’t need to be a deep learning researcher, but you should be comfortable with:

- Basic Python (functions, virtualenvs, `pip`, Jupyter).
- Running commands in a terminal.
- Very basic Docker concepts (build image, run container).

WORKSHOP STRUCTURE

We’ll work across **3 core days** plus an optional Day 0 and optional Capstone:

- **Day 0 (Monday, 2h)** – Environment setup
  - Install tools, clone repos, test notebooks.
- **Day 1 (Tuesday)** – LLMs & Prompting (Ollama vs watsonx.ai)
- **Day 2 (Wednesday)** – RAG (Retrieval-Augmented Generation)
- **Day 3 (Thursday)** – Orchestration, Agents & Recap

TECHNICAL PREREQUISITES

Before you can follow the labs, make sure your machine meets these requirements.

OPERATING SYSTEM

You should be able to use any of:

- **Windows 10+**
- **macOS 12+**
- **Linux** (Ubuntu 20.04+, Debian, Fedora, etc.)

If you’re on a locked-down corporate laptop, you may need help from IT to install Docker or run containers.

MINIMUM HARDWARE

These are not hard limits, but they’re good guidelines:

- **CPU**: 4+ cores
- **RAM**: 16 GB recommended (8 GB possible with smaller models)
- **Disk**: 20–30 GB free (Docker images + models + notebooks)

For local LLMs via Ollama:

- Tiny models (0.5B–1B parameters) are fine on 8 GB RAM.
- 7B models are happier with ~16 GB RAM

ACCOUNTS & ACCESS

To use watsonx.ai you need an **IBM Cloud account** and access to the watsonx services.

IBM CLOUD

1. Create or use an existing IBM Cloud account.
2. Ensure you have access to:
   - **watsonx.ai**
   - (Optional, but recommended) **watsonx.governance**
   - (Optional) **watsonx.orchestrate**

Your instructor / organizer should tell you:

- Which **region** to use (e.g., `us-south`).
- Whether you'll use a shared project or create your own.
- If there is a pre-configured resource group.

WATSONX PROJECT INFORMATION

You will need:

- **IBM Cloud API key**
- **watsonx endpoint URL**
  e.g. `https://us-south.ml.cloud.ibm.com`

TOOLS TO INSTALL BEFORE DAY 0 (OPTIONAL BUT STRONGLY RECOMMENDED)

If you have time *before* the workshop, install these locally so Day 0 is just validation.

GIT

- **Windows**: Download Git for Windows from the official site and follow the installer.
- **macOS**: Git usually comes via Xcode Command Line Tools:

```
xcode-select --install
```

- **Linux** (Ubuntu example):

```
sudo apt-get update
sudo apt-get install -y git
```

PYTHON 3.11

- **Windows**: Install from python.org and check “Add to PATH”.
- **macOS** (**Homebrew**):

REFERENCE REPOSITORIES & ASSETS

During the workshop you will clone and/or have access to:

REPOSITORIES

- **`simple-ollama-environment`** Minimal Python 3.11 + Jupyter + Ollama setup, with:
  - Docker support.
  - `notebooks/ollama_quickstart.ipynb`.
- **`simple-watsonx-enviroment`** Minimal Python 3.11 + Jupyter + watsonx.ai integration:
  - `.env.sample` for credentials.
  - `notebooks/watsonx_quickstart.ipynb`.
  - Dockerfile + Makefile for easy setup.
- **`watsonx-workshop`** The repository that hosts:
  - This documentation.
  - The **`accelerator/`** folder:
    - `rag/` – retrieval + pipeline code.
    - `service/` – FastAPI API.
    - `tools/` – ingestion & evaluation scripts.

WHAT YOU WILL HAVE AFTER DAY 0

By the end of Day 0, you should have:

- ✅ **Cloned**:
  - `simple-ollama-environment`
  - `simple-watsonx-enviroment`
  - `watsonx-workshop` (**with** `accelerator/` **and** `labs-src/`)
- ✅ **Working Jupyter** in both env repos.
- ✅ A basic **Ollama chat** running from `ollama_quickstart.ipynb`.
- ✅ A basic **Granite / watsonx.ai call** running from `watsonx_quickstart.ipynb`.
- ✅ The `accelerator/` folder available locally.
- ✅ All reference notebooks (`labs-src/` and accelerator notebooks) opening in Jupyter.

When those boxes are ticked, you're ready to hit the ground running on **Day 1**.