ASSIGNMENT

Hierarchical Combobox (Async, Virtualized, Multi-Select)

Objective

Build a **scalable hierarchical selection component** capable of handling large async datasets with full accessibility.

Mandatory Tech Stack

As per Global Constraints.

Scope

- Async tree loading
- Virtualized rendering
- Search with ancestry context
- Multi-select with indeterminate states
- Keyboard-first UX
- Screen reader parity

Explicitly Forbidden

- Tree libraries
- Select/combobox libraries
- Virtualization libraries

Tasks

1. Define tree data model and loaders.
2. Implement virtualized tree rendering.
3. Add search with context preservation.
4. Support multi-select and tag rendering.
5. Implement full keyboard contract.

6. Build Storybook edge-case scenarios.

Strict Requirements

- Stable focus during virtualization
- Correct indeterminate states
- Accessible async error handling
- Public Storybook required

Deliverables

- Combobox component with API docs
- Integration tests
- Accessibility report
- Public Storybook link