Completed Tasks

- **Conductor Parameters:**
  - Updated Conductor Info Widget to be editable and made spin box default parameters.
  - Made spin box operational.
  - Added a conductor parameters widget based on the conductor info widget.
  - Changed the number of wires to an integer and removed decimals.
- **UI Changes:**
  - Removed the Plot Widget and Backend, leaving only the GUI.
  - Adjusted "Run Ampacity Simulation" and "Ampacity: A" QLabel and QLineEdit to be placed below.
  - Moved "Save as JSON" and "Save as XLSX" (or "Export to XLSX") under the File menu.
  - Renamed and restructured simulation parameters to "Simulation Settings" and removed the orientation field.
  - Deleted unnecessary elements in the simulation settings.
  - Removed Other Weather Conditions.
  - Replaced "Other things in simulation settings" with updated content.
  - Updated Hbox for buttons to not be vertical (v).
  - Made resizing functionality work perfectly.
- **Functionality Improvements:**
  - Set default values and constraints (min/max) for all parameters.
  - Implemented default values for conductor parameters, weather parameters, and simulation settings.
  - Adjusted upper bounds for parameters to be 10 times more than usual.
  - Implemented common parameters for conductors and set number of wires to integer.
  - Set min/max values for simulation data, weather, and conductor parameters.
  - Added units next to fields with QDoubleSpinBox.setSuffix().
- **File Handling:**
  - Implemented JSON import/export functionality.
  - Enabled loading a JSON file, displaying content, and saving parameters to the same or another file, ensuring identical content.
  - Added functionality to read critical temperature from JSON if available.
  - Fixed issue with `inner_part_specific_conductivity` and `outer_part_specific_conductivity` not saving in the new JSON.

    - Removed unnecessary checkbox next to `specific_conductivity`.

- **Miscellaneous:**
    - Updated "No conductor selected" to line edit.
    - Removed line load.
    - Set default values and adjusted the number of decimal places for parameter fields.
    - Implemented export to JSON.
    - Ensured that specific conductivities are correctly handled.

Unfinished Tasks

- **Simulation Data Handling:**
    - Add `ampacity` and `critTEmp` data from Simulation Settings to JSON dump.
    - Implement the functionality for "Run Ampacity Simulation":
        - Extract parameters from UI and input weather data.
        - Use `dlr_simutils_common.core.diter.generate_simulation_request` to create a protobuf for simulation:
            - Collect conductor parameters, orientation, and altitude in `line_data`.
            - Create a list with one entry in `measurements_data`, setting time to 0.
        - Use `tempfile.TemporaryDirectory()` to create a temporary directory:
            - Save protobuf using `dlr_simutils_common.core.diter.write_request_to_protobuffer`.
            - Create a `simulation_output` directory.
        - Run `dtr1d_main` using `subprocess.Popen`:
            - Path to executable stored in `dlr_simutils_common.core.diter.diter_exe`.
        - Read "*_history.csv" file in `simulation_output` using `pandas`:
            - Extract the value from the ' I_th [A]' column (note: column separator is ", ").

- **Export to XLSX:**
    - Utilize `form_template.xlsx` from Teams for "Export to XLSX".
    - Use `openpyxl` library for implementation (see openpyxl documentation).

- **Signal Plotting:**
    - Address potential issues with signal plotting in the application.