

# 6-2: FFI (Practice)

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# Create new folder

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- Create new branch **p62** in the repository
- Create new folder **p62**
- Create new library crates: **libminiaes**, **miniaes-sys**, and **miniaes**
- Add the crates to the workspace members list (e.g. **miniaes** will be added as **p62/miniaes**)

# Implement `libminiaes` shared library

- Copy implementation of the AES functions from the previous day exercise and expose them as FFI functions
- Compile `libminiaes.so` (see the `target/` folder after `cargo build --release`) and copy it to `/usr/local/lib/`
- Generate header file for the library using `cbindgen` and save it in `p62/libminiaes/include/` folder

# Implement `miniaes-sys` crate

- Implement unsafe bindings to the `libminiaes` shared library in the `miniaes-sys` crate
- The bindings can be created either manually, or using `rust-bindgen`

# Implement safe wrappers

- Implement a safe wrapper for the `libminiaes` shared library on top of the `miniaes-sys` crate in the `miniaes` crate
- Write integration tests for the resulting crate