Configuration Loading Sequence

Participants: Application, TOMLLoader, EnvLoader, File System, tomli/tomllib, Cache

Active Loading (EnvLoader)

- Application → EnvLoader: EnvLoader()
- Note over EnvLoader: **init** actively loads .env
- EnvLoader → EnvLoader: load_env_file()
- EnvLoader → File System: Find .env (cwd first)
- File System ⇠ EnvLoader: .env path
- EnvLoader → File System: Read .env
- File System ⇠ EnvLoader: File contents
- EnvLoader → EnvLoader: Parse and merge with os.environ
- EnvLoader ⇢ Application: EnvLoader instance

Lazy Loading (TOMLLoader)

- Application → TOMLLoader: load_toml()
- TOMLLoader → Cache: Check _config_toml
- Cache ⇢ TOMLLoader: None (not cached)
- TOMLLoader → TOMLLoader: _find_project_root()
- TOMLLoader → File System: Check for markers (cwd first, then __file__)
- File System ⇢ TOMLLoader: Project root path
- TOMLLoader → TOMLLoader: Check sys.argv for --config
- TOMLLoader ⇢ TOMLLoader: No custom path
- TOMLLoader → TOMLLoader: Check ENV['CONFIG_FILE']
- TOMLLoader ⇢ TOMLLoader: No env var
- TOMLLoader → TOMLLoader: _find_file('config.toml')
- TOMLLoader → File System: Search project_root/config.toml
- File System → TOMLLoader: File found
- TOMLLoader → File System: open(config_path, 'rb')
- File System → TOMLLoader: File handle
- TOMLLoader → tomli/tomllib: load(file_handle)
- tomli/tomllib ⇢ TOMLLoader: Parsed dict
- TOMLLoader → Cache: Store _config_toml
- Cache ⇢ TOMLLoader: Cached
- TOMLLoader ⇢ Application: Config dict

Subsequent Call (Cached)

- Application → TOMLLoader: load_toml()
- TOMLLoader → Cache: Check _config_toml
- Cache ⇢ TOMLLoader: Cached dict
- TOMLLoader ⇢ Application: Config dict (cached)