

LaborLegalAI

1.0

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1 Namespace Index	1
1.1 Namespace List	1
2 Hierarchical Index	3
2.1 Class Hierarchy	3
3 Class Index	5
3.1 Class List	5
4 File Index	7
4.1 File List	7
5 Namespace Documentation	9
5.1 enhanced_langchain_agents Namespace Reference	9
5.1.1 Function Documentation	9
5.1.1.1 initialize_enhanced_system()	9
5.1.2 Variable Documentation	9
5.1.2.1 level	9
5.1.2.2 logger	10
5.2 langchain_app Namespace Reference	10
5.2.1 Function Documentation	10
5.2.1.1 ask()	10
5.2.1.2 chat()	10
5.2.1.3 clear_chat_history()	11
5.2.1.4 contacts()	11
5.2.1.5 create_app()	11
5.2.1.6 direct_json_test()	11
5.2.1.7 get_chat_history()	11
5.2.1.8 health_check()	11
5.2.1.9 history()	11
5.2.1.10 history_detail()	12
5.2.1.11 index()	12
5.2.1.12 load_user()	12
5.2.1.13 login()	12
5.2.1.14 logout()	12
5.2.1.15 process_query()	12
5.2.1.16 profile()	12
5.2.1.17 register()	12
5.2.1.18 test_arabic_json()	12
5.2.2 Variable Documentation	13
5.2.2.1 app	13
5.2.2.2 debug	13
5.2.2.3 enhanced_system	13
5.2.2.4 level	13

5.2.2.5 logger	13
5.3 models Namespace Reference	13
6 Class Documentation	15
6.1 models.ChatHistory Class Reference	15
6.1.1 Member Function Documentation	15
6.1.1.1 __repr__()	15
6.1.2 Member Data Documentation	16
6.1.2.1 __tablename__	16
6.1.2.2 answer	16
6.1.2.3 id	16
6.1.2.4 meta	16
6.1.2.5 query	16
6.1.2.6 timestamp	16
6.1.2.7 user_id	16
6.2 models.Conversation Class Reference	16
6.2.1 Member Function Documentation	17
6.2.1.1 __repr__()	17
6.2.2 Member Data Documentation	17
6.2.2.1 __tablename__	17
6.2.2.2 created_at	17
6.2.2.3 id	17
6.2.2.4 messages	17
6.2.2.5 title	18
6.2.2.6 updated_at	18
6.2.2.7 user_id	18
6.3 enhanced_langchain_agents.EnhancedLaborLawSystem Class Reference	18
6.3.1 Detailed Description	18
6.3.2 Constructor & Destructor Documentation	19
6.3.2.1 __init__()	19
6.3.3 Member Function Documentation	19
6.3.3.1 _initialize_qa_chain()	19
6.3.3.2 _initialize_vectorstore()	19
6.3.3.3 _save_to_history()	19
6.3.3.4 get_chat_history()	19
6.3.3.5 process_query()	19
6.3.4 Member Data Documentation	20
6.3.4.1 embeddings	20
6.3.4.2 llm	20
6.3.4.3 memory	20
6.3.4.4 qa_chain	20
6.3.4.5 vectorstore	20

6.4 models.History Class Reference	20
6.4.1 Detailed Description	21
6.4.2 Member Function Documentation	21
6.4.2.1 __repr__()	21
6.4.3 Member Data Documentation	21
6.4.3.1 __tablename__	21
6.4.3.2 answer	21
6.4.3.3 corrected_query	21
6.4.3.4 id	21
6.4.3.5 referenced_chunks	22
6.4.3.6 session_id	22
6.4.3.7 timestamp	22
6.4.3.8 user_id	22
6.4.3.9 user_query	22
6.5 models.Message Class Reference	22
6.5.1 Member Function Documentation	23
6.5.1.1 __repr__()	23
6.5.2 Member Data Documentation	23
6.5.2.1 __tablename__	23
6.5.2.2 content	23
6.5.2.3 conversation_id	23
6.5.2.4 corrected_content	23
6.5.2.5 id	23
6.5.2.6 is_user	24
6.5.2.7 referenced_chunks	24
6.5.2.8 timestamp	24
6.5.2.9 user_id	24
6.6 models.MinistryContact Class Reference	24
6.6.1 Member Function Documentation	25
6.6.1.1 __repr__()	25
6.6.2 Member Data Documentation	25
6.6.2.1 __tablename__	25
6.6.2.2 address	25
6.6.2.3 created_at	25
6.6.2.4 email	25
6.6.2.5 id	25
6.6.2.6 name	25
6.6.2.7 phone	25
6.6.2.8 position	26
6.7 models.User Class Reference	26
6.7.1 Member Function Documentation	26
6.7.1.1 __repr__()	26

6.7.1.2 check_password()	27
6.7.1.3 set_password()	27
6.7.2 Member Data Documentation	27
6.7.2.1 __tablename__	27
6.7.2.2 chat_histories	27
6.7.2.3 conversations	27
6.7.2.4 created_at	27
6.7.2.5 histories	27
6.7.2.6 id	27
6.7.2.7 is_admin	27
6.7.2.8 messages	28
6.7.2.9 password_hash	28
6.7.2.10 session_id	28
6.7.2.11 username	28
7 File Documentation	29
7.1 enhanced_langchain_agents.py File Reference	29
7.2 langchain_app.py File Reference	29
7.3 models.py File Reference	30
Index	31

Chapter 1

Namespace Index

1.1 Namespace List

Here is a list of all namespaces with brief descriptions:

enhanced_langchain_agents	9
langchain_app	10
models	13

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

enhanced_langchain_agents.EnhancedLaborLawSystem	18
db.Model	
models.ChatHistory	15
models.Conversation	16
models.History	20
models.Message	22
models.MinistryContact	24
models.User	26
UserMixin	
models.User	26

Chapter 3

Class Index

3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

models.ChatHistory	15
models.Conversation	16
enhanced_langchain_agents.EnhancedLaborLawSystem	18
models.History	20
models.Message	22
models.MinistryContact	24
models.User	26

Chapter 4

File Index

4.1 File List

Here is a list of all files with brief descriptions:

enhanced_langchain_agents.py	29
langchain_app.py	29
models.py	30

Chapter 5

Namespace Documentation

5.1 enhanced_langchain_agents Namespace Reference

Classes

- class [EnhancedLaborLawSystem](#)

Functions

- [EnhancedLaborLawSystem initialize_enhanced_system](#) ()

Variables

- [level](#)
- [logger](#) = logging.getLogger(__name__)

5.1.1 Function Documentation

5.1.1.1 initialize_enhanced_system()

[EnhancedLaborLawSystem](#) enhanced_langchain_agents.initialize_enhanced_system ()

Initialize the enhanced labor law system

5.1.2 Variable Documentation

5.1.2.1 level

enhanced_langchain_agents.level

5.1.2.2 logger

```
enhanced_langchain_agents.logger = logging.getLogger(__name__)
```

5.2 langchain_app Namespace Reference

Functions

- [create_app](#) ()
- [load_user](#) (user_id)
- [index](#) ()
- [chat](#) ()
- [contacts](#) ()
- [history](#) ()
- [history_detail](#) (history_id)
- [profile](#) ()
- [login](#) ()
- [register](#) ()
- [logout](#) ()
- [process_query](#) ()
- [ask](#) ()
- [health_check](#) ()
- [direct_json_test](#) ()
- [test_arabic_json](#) ()
- [get_chat_history](#) ()
- [clear_chat_history](#) ()

Variables

- [level](#)
- [logger](#) = logging.getLogger(__name__)
- [app](#) = [create_app](#)()
- [enhanced_system](#) = initialize_enhanced_system()
- [debug](#)

5.2.1 Function Documentation

5.2.1.1 ask()

```
langchain_app.ask ()
```

Compatibility endpoint for existing frontend that uses the /ask route

5.2.1.2 chat()

```
langchain_app.chat ()
```


5.2.1.3 clear_chat_history()

```
langchain_app.clear_chat_history ()
```

Clear chat history for the current user

5.2.1.4 contacts()

```
langchain_app.contacts ()
```

Show ministry contacts

5.2.1.5 create_app()

```
langchain_app.create_app ()
```

5.2.1.6 direct_json_test()

```
langchain_app.direct_json_test ()
```

Test page for direct JSON evaluation

5.2.1.7 get_chat_history()

```
langchain_app.get_chat_history ()
```

Get chat history for the current user

5.2.1.8 health_check()

```
langchain_app.health_check ()
```

Health check endpoint

5.2.1.9 history()

```
langchain_app.history ()
```

5.2.1.10 history_detail()

```
langchain_app.history_detail (  
    history_id)
```

5.2.1.11 index()

```
langchain_app.index ()
```

5.2.1.12 load_user()

```
langchain_app.load_user (  
    user_id)
```

5.2.1.13 login()

```
langchain_app.login ()
```

5.2.1.14 logout()

```
langchain_app.logout ()
```

5.2.1.15 process_query()

```
langchain_app.process_query ()
```

5.2.1.16 profile()

```
langchain_app.profile ()
```

5.2.1.17 register()

```
langchain_app.register ()
```

5.2.1.18 test_arabic_json()

```
langchain_app.test_arabic_json ()
```

Test page for Arabic JSON evaluation

5.2.2 Variable Documentation

5.2.2.1 app

```
langchain_app.app = create_app()
```

5.2.2.2 debug

```
langchain_app.debug
```

5.2.2.3 enhanced_system

```
langchain_app.enhanced_system = initialize_enhanced_system()
```

5.2.2.4 level

```
langchain_app.level
```

5.2.2.5 logger

```
langchain_app.logger = logging.getLogger(__name__)
```

5.3 models Namespace Reference

Classes

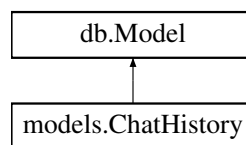
- class [ChatHistory](#)
- class [Conversation](#)
- class [History](#)
- class [Message](#)
- class [MinistryContact](#)
- class [User](#)

Chapter 6

Class Documentation

6.1 models.ChatHistory Class Reference

Inheritance diagram for models.ChatHistory:



Public Member Functions

- `__repr__` (self)

Static Public Attributes

- `id` = db.Column(db.Integer, primary_key=True)
- `user_id` = db.Column(db.Integer, db.ForeignKey('users.id'), nullable=False)
- `query` = db.Column(db.Text, nullable=False)
- `answer` = db.Column(db.Text, nullable=False)
- `timestamp` = db.Column(db.DateTime, default=datetime.utcnow)
- `meta` = db.Column(db.JSON)

Static Private Attributes

- `str __tablename__` = 'chat_histories'

6.1.1 Member Function Documentation

6.1.1.1 `__repr__()`

```
models.ChatHistory.__repr__ (  
    self)
```

6.1.2 Member Data Documentation

6.1.2.1 `__tablename__`

```
str models.ChatHistory.__tablename__ = 'chat_histories' [static], [private]
```

6.1.2.2 `answer`

```
models.ChatHistory.answer = db.Column(db.Text, nullable=False) [static]
```

6.1.2.3 `id`

```
models.ChatHistory.id = db.Column(db.Integer, primary_key=True) [static]
```

6.1.2.4 `meta`

```
models.ChatHistory.meta = db.Column(db.JSON) [static]
```

6.1.2.5 `query`

```
models.ChatHistory.query = db.Column(db.Text, nullable=False) [static]
```

6.1.2.6 `timestamp`

```
models.ChatHistory.timestamp = db.Column(db.DateTime, default=datetime.utcnow) [static]
```

6.1.2.7 `user_id`

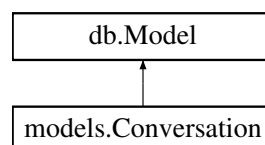
```
models.ChatHistory.user_id = db.Column(db.Integer, db.ForeignKey('users.id'), nullable=False) [static]
```

The documentation for this class was generated from the following file:

- [models.py](#)

6.2 `models.Conversation` Class Reference

Inheritance diagram for `models.Conversation`:



Public Member Functions

- `__repr__` (self)

Static Public Attributes

- `id` = db.Column(db.Integer, primary_key=True)
- `user_id` = db.Column(db.Integer, db.ForeignKey('users.id'), nullable=False)
- `title` = db.Column(db.String(200))
- `created_at` = db.Column(db.DateTime, default=datetime.utcnow)
- `updated_at` = db.Column(db.DateTime, default=datetime.utcnow, onupdate=datetime.utcnow)
- `messages` = db.relationship('Message', backref='conversation', lazy=True, cascade="all, delete-orphan")

Static Private Attributes

- `str __tablename__` = 'conversations'

6.2.1 Member Function Documentation

6.2.1.1 `__repr__()`

```
models.Conversation.__repr__ (  
    self)
```

6.2.2 Member Data Documentation

6.2.2.1 `__tablename__`

```
str models.Conversation.__tablename__ = 'conversations' [static], [private]
```

6.2.2.2 `created_at`

```
models.Conversation.created_at = db.Column(db.DateTime, default=datetime.utcnow) [static]
```

6.2.2.3 `id`

```
models.Conversation.id = db.Column(db.Integer, primary_key=True) [static]
```

6.2.2.4 `messages`

```
models.Conversation.messages = db.relationship('Message', backref='conversation', lazy=True,  
cascade="all, delete-orphan") [static]
```

6.2.2.5 title

```
models.Conversation.title = db.Column(db.String(200)) [static]
```

6.2.2.6 updated_at

```
models.Conversation.updated_at = db.Column(db.DateTime, default=datetime.utcnow, onupdate=datetime.utcnow) [static]
```

6.2.2.7 user_id

```
models.Conversation.user_id = db.Column(db.Integer, db.ForeignKey('users.id'), nullable=False) [static]
```

The documentation for this class was generated from the following file:

- [models.py](#)

6.3 enhanced_langchain_agents.EnhancedLaborLawSystem Class Reference

Public Member Functions

- [__init__](#) (self)
- Dict[str, Any] [process_query](#) (self, str query)
- List[Dict[str, Any]] [get_chat_history](#) (self, int user_id, int limit=10)

Public Attributes

- [llm](#) = ChatOpenAI(temperature=0)
- [embeddings](#) = OpenAIEmbeddings()
- [memory](#)
- FAISS [vectorstore](#) = self._initialize_vectorstore()
- ConversationalRetrievalChain [qa_chain](#) = self._initialize_qa_chain()

Protected Member Functions

- FAISS [_initialize_vectorstore](#) (self)
- ConversationalRetrievalChain [_initialize_qa_chain](#) (self)
- [_save_to_history](#) (self, int user_id, str query, str answer)

6.3.1 Detailed Description

Enhanced labor law system with RAG, history, and chat functionality

6.3.2 Constructor & Destructor Documentation

6.3.2.1 __init__()

```
enhanced_langchain_agents.EnhancedLaborLawSystem.__init__ (  
    self)
```

6.3.3 Member Function Documentation

6.3.3.1 _initialize_qa_chain()

```
ConversationalRetrievalChain enhanced_langchain_agents.EnhancedLaborLawSystem._initialize_qa↵  
_chain (  
    self) [protected]
```

6.3.3.2 _initialize_vectorstore()

```
FAISS enhanced_langchain_agents.EnhancedLaborLawSystem._initialize_vectorstore (  
    self) [protected]
```

6.3.3.3 _save_to_history()

```
enhanced_langchain_agents.EnhancedLaborLawSystem._save_to_history (  
    self,  
    int user_id,  
    str query,  
    str answer) [protected]
```

Save conversation to chat history

6.3.3.4 get_chat_history()

```
List[Dict[str, Any]] enhanced_langchain_agents.EnhancedLaborLawSystem.get_chat_history (  
    self,  
    int user_id,  
    int limit = 10)
```

Get chat history for a user

6.3.3.5 process_query()

```
Dict[str, Any] enhanced_langchain_agents.EnhancedLaborLawSystem.process_query (  
    self,  
    str query)
```

6.3.4 Member Data Documentation

6.3.4.1 embeddings

```
enhanced_langchain_agents.EnhancedLaborLawSystem.embeddings = OpenAIEmbeddings()
```

6.3.4.2 llm

```
enhanced_langchain_agents.EnhancedLaborLawSystem.llm = ChatOpenAI(temperature=0)
```

6.3.4.3 memory

```
enhanced_langchain_agents.EnhancedLaborLawSystem.memory
```

Initial value:

```
= ConversationBufferMemory(
    memory_key="chat_history",
    return_messages=True,
    output_key="answer"
)
```

6.3.4.4 qa_chain

```
ConversationalRetrievalChain enhanced_langchain_agents.EnhancedLaborLawSystem.qa_chain = self._initialize_qa_chain()
```

6.3.4.5 vectorstore

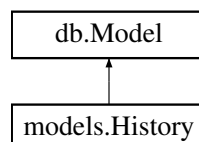
```
FAISS enhanced_langchain_agents.EnhancedLaborLawSystem.vectorstore = self._initialize_vectorstore()
```

The documentation for this class was generated from the following file:

- [enhanced_langchain_agents.py](#)

6.4 models.History Class Reference

Inheritance diagram for models.History:



Public Member Functions

- [__repr__](#) (self)

Static Public Attributes

- `id` = `db.Column(db.Integer, primary_key=True)`
- `user_id` = `db.Column(db.Integer, db.ForeignKey('users.id'), nullable=False)`
- `session_id` = `db.Column(db.String(128), nullable=True)`
- `user_query` = `db.Column(db.Text, nullable=True)`
- `corrected_query` = `db.Column(db.Text)`
- `answer` = `db.Column(db.Text)`
- `referenced_chunks` = `db.Column(db.Text)`
- `timestamp` = `db.Column(db.DateTime, default=datetime.utcnow)`

Static Private Attributes

- `str __tablename__ = 'histories'`

6.4.1 Detailed Description

Legacy history model - keeping for backward compatibility

6.4.2 Member Function Documentation

6.4.2.1 `__repr__()`

```
models.History.__repr__ (  
    self)
```

6.4.3 Member Data Documentation

6.4.3.1 `__tablename__`

```
str models.History.__tablename__ = 'histories' [static], [private]
```

6.4.3.2 `answer`

```
models.History.answer = db.Column(db.Text) [static]
```

6.4.3.3 `corrected_query`

```
models.History.corrected_query = db.Column(db.Text) [static]
```

6.4.3.4 `id`

```
models.History.id = db.Column(db.Integer, primary_key=True) [static]
```

6.4.3.5 referenced_chunks

```
models.History.referenced_chunks = db.Column(db.Text) [static]
```

6.4.3.6 session_id

```
models.History.session_id = db.Column(db.String(128), nullable=True) [static]
```

6.4.3.7 timestamp

```
models.History.timestamp = db.Column(db.DateTime, default=datetime.utcnow) [static]
```

6.4.3.8 user_id

```
models.History.user_id = db.Column(db.Integer, db.ForeignKey('users.id'), nullable=False) [static]
```

6.4.3.9 user_query

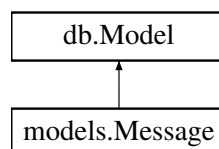
```
models.History.user_query = db.Column(db.Text, nullable=True) [static]
```

The documentation for this class was generated from the following file:

- [models.py](#)

6.5 models.Message Class Reference

Inheritance diagram for models.Message:



Public Member Functions

- [__repr__](#) (self)

Static Public Attributes

- `id` = `db.Column(db.Integer, primary_key=True)`
- `conversation_id` = `db.Column(db.Integer, db.ForeignKey('conversations.id'), nullable=False)`
- `user_id` = `db.Column(db.Integer, db.ForeignKey('users.id'), nullable=False)`
- `is_user` = `db.Column(db.Boolean, default=True)`
- `content` = `db.Column(db.Text, nullable=False)`
- `corrected_content` = `db.Column(db.Text)`
- `referenced_chunks` = `db.Column(db.Text)`
- `timestamp` = `db.Column(db.DateTime, default=datetime.utcnow)`

Static Private Attributes

- `str __tablename__ = 'messages'`

6.5.1 Member Function Documentation

6.5.1.1 `__repr__()`

```
models.Message.__repr__ (
    self)
```

6.5.2 Member Data Documentation

6.5.2.1 `__tablename__`

```
str models.Message.__tablename__ = 'messages' [static], [private]
```

6.5.2.2 `content`

```
models.Message.content = db.Column(db.Text, nullable=False) [static]
```

6.5.2.3 `conversation_id`

```
models.Message.conversation_id = db.Column(db.Integer, db.ForeignKey('conversations.id'),
nullable=False) [static]
```

6.5.2.4 `corrected_content`

```
models.Message.corrected_content = db.Column(db.Text) [static]
```

6.5.2.5 `id`

```
models.Message.id = db.Column(db.Integer, primary_key=True) [static]
```

6.5.2.6 is_user

```
models.Message.is_user = db.Column(db.Boolean, default=True) [static]
```

6.5.2.7 referenced_chunks

```
models.Message.referenced_chunks = db.Column(db.Text) [static]
```

6.5.2.8 timestamp

```
models.Message.timestamp = db.Column(db.DateTime, default=datetime.utcnow) [static]
```

6.5.2.9 user_id

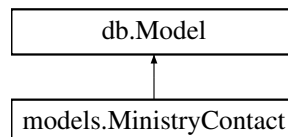
```
models.Message.user_id = db.Column(db.Integer, db.ForeignKey('users.id'), nullable=False) [static]
```

The documentation for this class was generated from the following file:

- [models.py](#)

6.6 models.MinistryContact Class Reference

Inheritance diagram for models.MinistryContact:



Public Member Functions

- [__repr__](#) (self)

Static Public Attributes

- [id](#) = db.Column(db.Integer, primary_key=True)
- [name](#) = db.Column(db.String(200), nullable=False)
- [position](#) = db.Column(db.String(200))
- [phone](#) = db.Column(db.String(50))
- [email](#) = db.Column(db.String(200))
- [address](#) = db.Column(db.String(500))
- [created_at](#) = db.Column(db.DateTime, default=datetime.utcnow)

Static Private Attributes

- str `__tablename__` = 'ministry_contacts'

6.6.1 Member Function Documentation

6.6.1.1 `__repr__()`

```
models.MinistryContact.__repr__ (  
    self)
```

6.6.2 Member Data Documentation

6.6.2.1 `__tablename__`

```
str models.MinistryContact.__tablename__ = 'ministry_contacts' [static], [private]
```

6.6.2.2 `address`

```
models.MinistryContact.address = db.Column(db.String(500)) [static]
```

6.6.2.3 `created_at`

```
models.MinistryContact.created_at = db.Column(db.DateTime, default=datetime.utcnow) [static]
```

6.6.2.4 `email`

```
models.MinistryContact.email = db.Column(db.String(200)) [static]
```

6.6.2.5 `id`

```
models.MinistryContact.id = db.Column(db.Integer, primary_key=True) [static]
```

6.6.2.6 `name`

```
models.MinistryContact.name = db.Column(db.String(200), nullable=False) [static]
```

6.6.2.7 `phone`

```
models.MinistryContact.phone = db.Column(db.String(50)) [static]
```

6.6.2.8 position

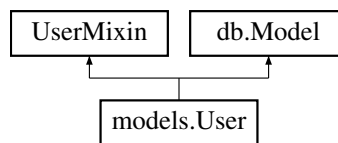
```
models.MinistryContact.position = db.Column(db.String(200)) [static]
```

The documentation for this class was generated from the following file:

- [models.py](#)

6.7 models.User Class Reference

Inheritance diagram for models.User:



Public Member Functions

- [set_password](#) (self, password)
- [check_password](#) (self, password)
- [__repr__](#) (self)

Static Public Attributes

- [id](#) = db.Column(db.Integer, primary_key=True)
- [username](#) = db.Column(db.String(80), unique=True, nullable=False)
- [password_hash](#) = db.Column(db.String(120), nullable=False)
- [session_id](#) = db.Column(db.String(128), unique=True)
- [created_at](#) = db.Column(db.DateTime, default=datetime.utcnow)
- [is_admin](#) = db.Column(db.Boolean, default=False)
- [histories](#) = db.relationship('History', backref='user', lazy=True)
- [conversations](#) = db.relationship('Conversation', backref='user', lazy=True, cascade="all, delete-orphan")
- [messages](#) = db.relationship('Message', backref='user', lazy=True)
- [chat_histories](#) = db.relationship('ChatHistory', backref='user', lazy=True)

Static Private Attributes

- str [__tablename__](#) = 'users'

6.7.1 Member Function Documentation

6.7.1.1 __repr__()

```
models.User.__repr__ (
    self)
```


6.7.1.2 check_password()

```
models.User.check_password (
    self,
    password)
```

6.7.1.3 set_password()

```
models.User.set_password (
    self,
    password)
```

6.7.2 Member Data Documentation

6.7.2.1 __tablename__

```
str models.User.__tablename__ = 'users' [static], [private]
```

6.7.2.2 chat_histories

```
models.User.chat_histories = db.relationship('ChatHistory', backref='user', lazy=True) [static]
```

6.7.2.3 conversations

```
models.User.conversations = db.relationship('Conversation', backref='user', lazy=True, cascade="all, delete-orphan") [static]
```

6.7.2.4 created_at

```
models.User.created_at = db.Column(db.DateTime, default=datetime.utcnow) [static]
```

6.7.2.5 histories

```
models.User.histories = db.relationship('History', backref='user', lazy=True) [static]
```

6.7.2.6 id

```
models.User.id = db.Column(db.Integer, primary_key=True) [static]
```

6.7.2.7 is_admin

```
models.User.is_admin = db.Column(db.Boolean, default=False) [static]
```

6.7.2.8 messages

```
models.User.messages = db.relationship('Message', backref='user', lazy=True) [static]
```

6.7.2.9 password_hash

```
models.User.password_hash = db.Column(db.String(120), nullable=False) [static]
```

6.7.2.10 session_id

```
models.User.session_id = db.Column(db.String(128), unique=True) [static]
```

6.7.2.11 username

```
models.User.username = db.Column(db.String(80), unique=True, nullable=False) [static]
```

The documentation for this class was generated from the following file:

- [models.py](#)

Chapter 7

File Documentation

7.1 enhanced_langchain_agents.py File Reference

Classes

- class [enhanced_langchain_agents.EnhancedLaborLawSystem](#)

Namespaces

- namespace [enhanced_langchain_agents](#)

Functions

- [EnhancedLaborLawSystem](#) [enhanced_langchain_agents.initialize_enhanced_system](#) ()

Variables

- [enhanced_langchain_agents.level](#)
- [enhanced_langchain_agents.logger](#) = logging.getLogger(__name__)

7.2 langchain_app.py File Reference

Namespaces

- namespace [langchain_app](#)

Functions

- [langchain_app.create_app \(\)](#)
- [langchain_app.load_user \(user_id\)](#)
- [langchain_app.index \(\)](#)
- [langchain_app.chat \(\)](#)
- [langchain_app.contacts \(\)](#)
- [langchain_app.history \(\)](#)
- [langchain_app.history_detail \(history_id\)](#)
- [langchain_app.profile \(\)](#)
- [langchain_app.login \(\)](#)
- [langchain_app.register \(\)](#)
- [langchain_app.logout \(\)](#)
- [langchain_app.process_query \(\)](#)
- [langchain_app.ask \(\)](#)
- [langchain_app.health_check \(\)](#)
- [langchain_app.direct_json_test \(\)](#)
- [langchain_app.test_arabic_json \(\)](#)
- [langchain_app.get_chat_history \(\)](#)
- [langchain_app.clear_chat_history \(\)](#)

Variables

- [langchain_app.level](#)
- [langchain_app.logger](#) = logging.getLogger(__name__)
- [langchain_app.app](#) = [create_app\(\)](#)
- [langchain_app.enhanced_system](#) = [initialize_enhanced_system\(\)](#)
- [langchain_app.debug](#)

7.3 models.py File Reference

Classes

- class [models.User](#)
- class [models.Conversation](#)
- class [models.Message](#)
- class [models.History](#)
- class [models.MinistryContact](#)
- class [models.ChatHistory](#)

Namespaces

- namespace [models](#)

Index

- `__init__`
 - `enhanced_langchain_agents.EnhancedLaborLawSystem`, 19
 - `__repr__`
 - `models.ChatHistory`, 15
 - `models.Conversation`, 17
 - `models.History`, 21
 - `models.Message`, 23
 - `models.MinistryContact`, 25
 - `models.User`, 26
 - `__tablename__`
 - `models.ChatHistory`, 16
 - `models.Conversation`, 17
 - `models.History`, 21
 - `models.Message`, 23
 - `models.MinistryContact`, 25
 - `models.User`, 27
 - `_initialize_qa_chain`
 - `enhanced_langchain_agents.EnhancedLaborLawSystem`, 19
 - `_initialize_vectorstore`
 - `enhanced_langchain_agents.EnhancedLaborLawSystem`, 19
 - `_save_to_history`
 - `enhanced_langchain_agents.EnhancedLaborLawSystem`, 19
- `address`
 - `models.MinistryContact`, 25
- `answer`
 - `models.ChatHistory`, 16
 - `models.History`, 21
- `app`
 - `langchain_app`, 13
- `ask`
 - `langchain_app`, 10
- `chat`
 - `langchain_app`, 10
- `chat_histories`
 - `models.User`, 27
- `check_password`
 - `models.User`, 26
- `clear_chat_history`
 - `langchain_app`, 10
- `contacts`
 - `langchain_app`, 11
- `content`
 - `models.Message`, 23
- `conversation_id`
 - `models.Message`, 23
 - `conversations`
 - `models.User`, 27
 - `corrected_content`
 - `models.Message`, 23
 - `corrected_query`
 - `models.History`, 21
 - `create_app`
 - `langchain_app`, 11
 - `created_at`
 - `models.Conversation`, 17
 - `models.MinistryContact`, 25
 - `models.User`, 27
 - `debug`
 - `langchain_app`, 13
 - `direct_json_test`
 - `langchain_app`, 11
 - `email`
 - `models.MinistryContact`, 25
 - `embeddings`
 - `enhanced_langchain_agents.EnhancedLaborLawSystem`, 20
 - `enhanced_langchain_agents`, 9
 - `initialize_enhanced_system`, 9
 - `level`, 9
 - `logger`, 9
 - `enhanced_langchain_agents.EnhancedLaborLawSystem`, 18
 - `__init__`, 19
 - `_initialize_qa_chain`, 19
 - `_initialize_vectorstore`, 19
 - `_save_to_history`, 19
 - `embeddings`, 20
 - `get_chat_history`, 19
 - `llm`, 20
 - `memory`, 20
 - `process_query`, 19
 - `qa_chain`, 20
 - `vectorstore`, 20
 - `enhanced_langchain_agents.py`, 29
 - `enhanced_system`
 - `langchain_app`, 13
 - `get_chat_history`
 - `enhanced_langchain_agents.EnhancedLaborLawSystem`, 19
 - `langchain_app`, 11
 - `health_check`

- langchain_app, 11
- histories
 - models.User, 27
- history
 - langchain_app, 11
- history_detail
 - langchain_app, 11
- id
 - models.ChatHistory, 16
 - models.Conversation, 17
 - models.History, 21
 - models.Message, 23
 - models.MinistryContact, 25
 - models.User, 27
- index
 - langchain_app, 12
- initialize_enhanced_system
 - enhanced_langchain_agents, 9
- is_admin
 - models.User, 27
- is_user
 - models.Message, 23
- langchain_app, 10
 - app, 13
 - ask, 10
 - chat, 10
 - clear_chat_history, 10
 - contacts, 11
 - create_app, 11
 - debug, 13
 - direct_json_test, 11
 - enhanced_system, 13
 - get_chat_history, 11
 - health_check, 11
 - history, 11
 - history_detail, 11
 - index, 12
 - level, 13
 - load_user, 12
 - logger, 13
 - login, 12
 - logout, 12
 - process_query, 12
 - profile, 12
 - register, 12
 - test_arabic_json, 12
- langchain_app.py, 29
- level
 - enhanced_langchain_agents, 9
 - langchain_app, 13
- llm
 - enhanced_langchain_agents.EnhancedLaborLawSystem, 20
- load_user
 - langchain_app, 12
- logger
 - enhanced_langchain_agents, 9
- langchain_app, 13
- login
 - langchain_app, 12
- logout
 - langchain_app, 12
- memory
 - enhanced_langchain_agents.EnhancedLaborLawSystem, 20
- messages
 - models.Conversation, 17
 - models.User, 27
- meta
 - models.ChatHistory, 16
- models, 13
- models.ChatHistory, 15
 - __repr__, 15
 - __tablename__, 16
 - answer, 16
 - id, 16
 - meta, 16
 - query, 16
 - timestamp, 16
 - user_id, 16
- models.Conversation, 16
 - __repr__, 17
 - __tablename__, 17
 - created_at, 17
 - id, 17
 - messages, 17
 - title, 17
 - updated_at, 18
 - user_id, 18
- models.History, 20
 - __repr__, 21
 - __tablename__, 21
 - answer, 21
 - corrected_query, 21
 - id, 21
 - referenced_chunks, 21
 - session_id, 22
 - timestamp, 22
 - user_id, 22
 - user_query, 22
- models.Message, 22
 - __repr__, 23
 - __tablename__, 23
 - content, 23
 - conversation_id, 23
 - corrected_content, 23
 - id, 23
 - is_user, 23
 - referenced_chunks, 24
 - timestamp, 24
 - user_id, 24
- models.MinistryContact, 24
 - __repr__, 25
 - __tablename__, 25
 - address, 25

- created_at, 25
- email, 25
- id, 25
- name, 25
- phone, 25
- position, 25
- models.py, 30
- models.User, 26
 - __repr__, 26
 - __tablename__, 27
 - chat_histories, 27
 - check_password, 26
 - conversations, 27
 - created_at, 27
 - histories, 27
 - id, 27
 - is_admin, 27
 - messages, 27
 - password_hash, 28
 - session_id, 28
 - set_password, 27
 - username, 28
- name
 - models.MinistryContact, 25
- password_hash
 - models.User, 28
- phone
 - models.MinistryContact, 25
- position
 - models.MinistryContact, 25
- process_query
 - enhanced_langchain_agents.EnhancedLaborLawSystem, 19
 - langchain_app, 12
- profile
 - langchain_app, 12
- qa_chain
 - enhanced_langchain_agents.EnhancedLaborLawSystem, 20
- query
 - models.ChatHistory, 16
- referenced_chunks
 - models.History, 21
 - models.Message, 24
- register
 - langchain_app, 12
- session_id
 - models.History, 22
 - models.User, 28
- set_password
 - models.User, 27
- test_arabic_json
 - langchain_app, 12
- timestamp
 - models.ChatHistory, 16
 - models.History, 22
 - models.Message, 24
- title
 - models.Conversation, 17
- updated_at
 - models.Conversation, 18
- user_id
 - models.ChatHistory, 16
 - models.Conversation, 18
 - models.History, 22
 - models.Message, 24
- user_query
 - models.History, 22
- username
 - models.User, 28
- vectorstore
 - enhanced_langchain_agents.EnhancedLaborLawSystem, 20