Class INIParser

java.lang.Object
    INIParser

```
public class INIParser
extends Object
```

Parser for INI files. This class allows loading, modifying, and querying configuration settings stored in INI format.

INI files store configuration data in a structured format with sections and key-value pairs. This API supports retrieving values as strings, integers, doubles, and booleans, as well as setting or unsetting entries and accessing sections directly.

This API is translated from the iniparser API found here: iniparser GitHub

Thread Safety: The `INIParser` class is not thread-safe. Access to the dictionary (i.e., loading, modifying, and querying) should be synchronized externally if used in a concurrent environment.

Example Usage:

```
INIParser parser = new INIParser();

// Load INI file
try {
    parser.load("config.ini");
} catch (IOException e) {
    System.err.println("Failed to load INI file.");
}

// Retrieve values
String value = parser.getString("section:key", "default");
int intValue = parser.getInt("section:key", -1);
boolean boolValue = parser.getBoolean("section:key", false);

// Set and remove values
parser.setEntry("section:key", "newValue");
parser.unsetEntry("section:key");

// Dump contents to System.out
parser.dump(System.out);
```

Constructor Summary

Constructors

Constructor	Description
`INIParser()`	Constructs an empty INIParser instance with an empty configuration dictionary.

Method Summary

All Methods | **Static Methods** | **Instance Methods** | **Concrete Methods**

Modifier and Type	Method	Description
void	`dump(PrintStream out)`	Dumps all entries in the dictionary to the specified PrintStream.
boolean	`findEntry(String entry)`	Checks if a specific entry is present within the dictionary.
boolean	`getBoolean(String key, boolean defaultValue)`	Retrieves the boolean value associated with the specified key.
int	`getInt(String key, int defaultValue)`	Retrieves the integer value associated with the specified key.
int	`getSectionCount()`	Counts the number of unique sections within the dictionary.
String	`getSectionName(int index)`	Retrieves the name of a section at a specified index.
String	`getString(String key, String defaultValue)`	Retrieves the string value associated with the specified key.
Map<String,String>	`load(String fileName)`	Loads the contents of an INI file, populating the dictionary with parsed entries.
Map<String,String>	`loadFromReader (BufferedReader reader)`	Loads the contents of an INI file from a BufferedReader, populating the dictionary.
int	`setEntry(String entry, String value)`	Sets or updates an entry in the dictionary with the

		specified value.
static void	**setErrorCallback**(**PrintStream** errCallback)	Sets a custom error output stream for reporting syntax errors or missing entries.
void	**unsetEntry**(**String** entry)	Removes an entry from the dictionary if it exists.

Methods inherited from class java.lang.Object

clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Constructor Details

INIParser

```
public INIParser()
```

Constructs an empty INIParser instance with an empty configuration dictionary.

Method Details

setErrorCallback

```
public static void setErrorCallback(PrintStream errCallback)
```

Sets a custom error output stream for reporting syntax errors or missing entries.

Parameters:

`errCallback` - a PrintStream for error output, such as `System.err` or a custom logging stream. If null, defaults to `System.err`.

load

```
public Map<String,String> load(String fileName)
                        throws IOException
```

Loads the contents of an INI file, populating the dictionary with parsed entries.

Parameters:

`fileName` - the name of the INI file to parse

Returns:

the populated dictionary of parsed entries

Throws:

IOException - if the file cannot be read

Example Usage:

```
INIParser parser = new INIParser();
try {
    parser.load("config.ini");
} catch (IOException e) {
    e.printStackTrace();
}
```

loadFromReader

```
public Map<String,String> loadFromReader(BufferedReader reader)
                                  throws IOException
```

Loads the contents of an INI file from a BufferedReader, populating the dictionary.

Parameters:

`reader` - BufferedReader providing the INI file contents

Returns:

the populated dictionary of parsed entries

Throws:

IOException - if an error occurs while reading

getString

```
public String getString(String key,
                        String defaultValue)
```

Retrieves the string value associated with the specified key.

Parameters:

`key` - the key to retrieve the value for

`defaultValue` - the default value if the key is not found

Returns:

the value associated with the key, or `defaultValue` if the key is absent

getInt

```
public int getInt(String key,
                  int defaultValue)
```

Retrieves the integer value associated with the specified key.

Parameters:

`key` - the key to retrieve the value for

`defaultValue` - the default integer value if the key is not found or cannot be parsed as an integer

Returns:

the integer value, or `defaultValue` if the key is absent or invalid

getBoolean

```
public boolean getBoolean(String key,
                          boolean defaultValue)
```

Retrieves the boolean value associated with the specified key.

Parameters:

`key` - the key to retrieve the value for

`defaultValue` - the default boolean value if the key is not found or cannot be parsed as a boolean

Returns:

the boolean value, or `defaultValue` if the key is absent or invalid

getSectionCount

```
public int getSectionCount()
```

Counts the number of unique sections within the dictionary.

Returns:

the total number of sections found in the dictionary

getSectionName

```
public String getSectionName(int index)
```

Retrieves the name of a section at a specified index.

Parameters:

`index` - the index of the section name to retrieve

Returns:

the name of the section at the specified index, or `null` if the index is out of bounds

findEntry

```
public boolean findEntry(String entry)
```

Checks if a specific entry is present within the dictionary.

Parameters:

`entry` - the entry to search for

Returns:

`true` if the entry exists, `false` otherwise

setEntry

```
public int setEntry(String entry,
                    String value)
```

Sets or updates an entry in the dictionary with the specified value.

Parameters:

`entry` - the entry key

`value` - the value to associate with the entry

Returns:

0 if set successfully, or -1 if the entry is null or empty

unsetEntry

```
public void unsetEntry(String entry)
```

Removes an entry from the dictionary if it exists.

Parameters:

`entry` - the entry to remove

dump

```
public void dump(PrintStream out)
```

Dumps all entries in the dictionary to the specified PrintStream.

Parameters:

`out` - the PrintStream to write dictionary contents to, e.g., `System.out`