

Khamseena Scanner - Quick Start Guide

Get up and running in 5 minutes! ⚡

Step 1: Set Up Project Structure (2 minutes)

Create the following folder structure:

```
khamseena-compiler/  
├── token.py  
├── scanner.py  
├── main.py  
├── test_scanner.py  
├── examples/  
│   └── (create .kh files here)  
└── output/  
    └── (token outputs will go here)
```

Step 2: Create the Files (1 minute)

Copy the code into these files:

- `token.py` - Token class and definitions
 - `scanner.py` - Main scanner implementation
 - `main.py` - Command-line interface
 - `test_scanner.py` - Unit tests
-

Step 3: Create a Test Program (1 minute)

Create `examples/test.kh`:

```
khamseena
```

```
fetch basics
```

```
recipe brew() {  
    count x = 10;  
    serve "Hello, Khamseena!";  
    serve "Value: " + x;  
    deliver 0;  
}
```

Step 4: Run the Scanner (30 seconds)

```
bash
```

```
python main.py examples/test.kh
```

Expected output:

```
=====
```

```
Scanning file: examples/test.kh
```

```
=====
```

```
=====
```

```
KHAMSEENA SCANNER - TOKEN OUTPUT
```

```
=====
```

```
Total Tokens: 20
```

```
=====
```

TOKEN TYPE	VALUE	POSITION
------------	-------	----------

```
-----
```

FETCH	fetch	1:1
IDENTIFIER	basics	1:7
RECIPE	recipe	3:1

```
...
```

```
=====
```


```
✓ Scanning completed successfully!
```

```
✓ Total tokens: 20
```

Step 5: Run Tests (30 seconds)

```
bash

python test_scanner.py
```

You should see all tests passing! 

Common Commands

Scan a file

```
bash

python main.py examples/test.kh
```

Save token output to file

```
bash

python main.py examples/test.kh output/tokens.txt
```

Run unit tests

```
bash

python test_scanner.py
```

Use in your own Python code

```
python

from scanner import Scanner

source = 'count x = 10;'
scanner = Scanner(source)
tokens = scanner.tokenize()
print(tokens)
```

Troubleshooting

ImportError: No module named 'token'

Problem: Python's built-in `token` module is conflicting

Solution: Rename `token.py` to `khamseena_token.py` and update imports:

```
python

# In scanner.py
from khamseena_token import Token, TokenType, KEYWORDS
```

File not found error

Problem: Running from wrong directory

Solution: Make sure you're in the `khamseena-compiler/` directory:

```
bash

cd khamseena-compiler
python main.py examples/test.kh
```

Lexical Error messages

Problem: Syntax error in your .kh file

Solution: Check the error message - it tells you exactly where the problem is:

```
Lexical Error at line 5, column 12: Invalid character '@'
```

What's Next?

After the scanner works:

1. ☒ **Parser** - Build syntax trees
2. ☒ **Semantic Analyzer** - Type checking
3. ☒ **Code Generator** - Generate target code

Need Help?

- Check README.md for detailed documentation
 - Review test_scanner.py for usage examples
 - Look at examples/*.kh for sample programs
-

You're ready to start! Happy coding! 🚀