



# COMPLETE HACK DEVELOPMENT SETUP GUIDE

From Zero to Facebook Engineer Environment (2 Hours)

## TABLE OF CONTENTS

1. [Prerequisites & System Check](#)
2. [WSL Installation & Troubleshooting](#)
3. [VS Code Remote WSL Setup](#)
4. [PHP 8.3 Installation \(Hack-Compatible\)](#)
5. [Hack Project Structure](#)
6. [Create & Run First .hack File](#)
7. [Interactive Calculator Example](#)
8. [VS Code Workflow Optimization](#)
9. [Troubleshooting Common Errors](#)
10. [Production Templates](#)

## 1. PREREQUISITES & SYSTEM CHECK

- ✓ Windows 10/11 (Build 19041+)
- ✓ 8GB+ RAM recommended
- ✓ Admin access for PowerShell
- ✓ Internet connection

Check Windows version:

```
winver
```

## 2. WSL INSTALLATION & TROUBLESHOOTING

### 2.1 Quick Install (Windows 11)

```
# PowerShell as Administrator  
wsl --install
```

**Restart required → Ubuntu auto-installs**

### 2.2 Manual Fix (Error: "Class not registered")

```
# Repair WSL components  
dism.exe /online /disable-feature /featurename:Microsoft-Windows-Subsystem-Linux /norestart  
dism.exe /online /disable-feature /featurename:VirtualMachinePlatform /norestart  
shutdown /r /t 0  
  
# After restart (PowerShell Admin)  
dism.exe /online /enable-feature /featurename:Microsoft-Windows-Subsystem-Linux /all /no  
dism.exe /online /enable-feature /featurename:VirtualMachinePlatform /all /norestart  
wsl --update  
wsl --install -d Ubuntu
```

### 2.3 Verify WSL

```
wsl --list --verbose  
# Expected: Ubuntu (Default) Stopped 2
```

## 3. VS CODE REMOTE WSL SETUP

### 3.1 Install Extensions (VS Code Windows)

1. Ctrl+Shift+X → Extensions
2. Install: "Remote - WSL" (Microsoft)
3. Install: "Hack" (vscode-hack)

### 3.2 Connect to WSL

```
# In WSL Ubuntu terminal  
code .
```

**New VS Code window opens → Bottom-left: WSL: Ubuntu ✅**

### 3.3 Fix File Explorer (Not Visible)

```
Ctrl+Shift+E → Explorer appears on left  
View → Explorer → Checkmark
```

## 4. PHP 8.3 INSTALLATION (Hack-Compatible)

### 4.1 Install PHP 8.3 CLI

```
sudo apt update  
sudo apt install php8.3 php8.3-cli -y
```

### 4.2 Verify Installation

```
php8.3 --version  
# Expected: PHP 8.3.6 (cli)
```

**Note:** HHVM not available for Ubuntu 24.04 → PHP 8.3 runs 95% Hack code

## 5. HACK PROJECT STRUCTURE

```
your-project/  
└── .hhconfig      # Hack typechecker config  
└── hello.hack     # Simple program  
└── calculator.hack # Interactive app  
└── api.hack       # API example
```

### 5.1 Create Project Config

```
echo "infer_missing:true" > .hhconfig
```

## 6. CREATE & RUN FIRST .HACK FILE

### 6.1 Terminal Method (Fast)

```
cat > hello.hack << 'EOF'  
<?php  
echo " FIRST HACK FILE SUCCESS!\n";  
echo "Meta-style development ready! \n";  
?>  
EOF
```

```
php8.3 hello.hack
```

## 6.2 VS Code GUI Method

1. Ctrl+Shift+E → Explorer
2. ⌘ New File → "hello.hack"
3. Paste code above
4. Ctrl+S → Save
5. Ctrl+` → php8.3 hello.hack

### ✓ Expected Output:

```
⠠ FIRST HACK FILE SUCCESS!
Meta-style development ready! ⌘
```

## 7. INTERACTIVE CALCULATOR EXAMPLE

### 7.1 Create Calculator

```
cat > calculator.hack << 'EOF'
<?php
echo "⠠ META CALCULATOR ⌘\n";
echo "=====\\n";

echo "Enter first number: ";
$num1 = (float)trim(fgets(STDIN));
echo "Enter second number: ";
$num2 = (float)trim(fgets(STDIN));

echo "\\n⠠ RESULTS:\\n";
echo "Number 1: $num1\\n";
echo "Number 2: $num2\\n";
echo "Sum: " . ($num1 + $num2) . "\\n";
?>
EOF
```

### 7.2 Run Interactive Calculator

```
php8.3 calculator.hack
```

**Input:** 25 → Enter → 37 → Enter

**Output:** Sum: 62

## 8. VS CODE WORKFLOW OPTIMIZATION

### 8.1 10-Second Workflow

1. Ctrl+Shift+E → Explorer
2. ⌘ New File → "project.hack"
3. Paste template → Edit
4. Ctrl+S → Save
5. Ctrl+` → php8.3 project.hack

### 8.2 Useful Shortcuts

Ctrl+Shift+E → Explorer  
Ctrl+` → Terminal  
Ctrl+S → Save  
F5 → Debug (after PHP Debug extension)  
Ctrl+Shift+P → Command Palette

### 8.3 Status Indicators

- ✓ Bottom-left: WSL: Ubuntu
- ✓ Status bar: Hack 100%
- ✓ File icon: Purple Hack logo
- ✓ No red squiggles → Syntax OK

## 9. TROUBLESHOOTING COMMON ERRORS

Error	Cause	Fix
Class not registered	WSL MSI broken	wsl --install (Admin)
hhvm: command not found	No HHVM (Ubuntu 24.04)	Use php8.3
Prints code as text	No <?php	Add <?php top
unexpected end of file	Missing ?>	Add ?> bottom
php 8.3 file.hack	Space in command	php8.3 file.hack
File Explorer missing	Hidden panel	Ctrl+Shift+E

## 10. PRODUCTION TEMPLATES

## 10.1 Basic Template

```
<?php
echo "Project ready!\n";
// Your code here
?>
```

## 10.2 Calculator Template

```
<?php
echo "Enter number: ";
$input = trim(fgets(STDIN));
// Process $input
echo "Result: $result\n";
?>
```

## 10.3 API Template

```
<?php
function getData($id): array {
    return ['id' => $id, 'status' => 'success'];
}
$data = getData(1);
echo json_encode($data) . "\n";
?>
```

## FINAL ACHIEVEMENT CHECKLIST

- ✓ [ ] WSL Ubuntu 24.04 running
- ✓ [ ] VS Code Remote WSL connected
- ✓ [ ] PHP 8.3 installed & verified
- ✓ [ ] .hhconfig created
- ✓ [ ] hello.hack executes cleanly
- ✓ [ ] calculator.hack interactive works
- ✓ [ ] VS Code workflow: 10 seconds/file
- ✓ [ ] Zero parse errors
- ✓ [ ] Facebook engineer ready! ☀

## HELPDESK COMMANDS

```
# Quick status check
wsl --list --verbose
php8.3 --version
ls *.hack

# Reset everything
```

```
rm *.hack
echo "infer_missing:true" > .hhconfig
code .
```

**This document guides anyone from zero to production Hack development in 2 hours! ☀**

**Share this guide** - perfect for team onboarding or interview prep!

\*\*

1. Meta-9th-dec.pdf