

## How to Publish High-Quality Research

### Ghidra Software Reverse Engineering Framework

Ghidra is a software reverse engineering (SRE) framework created and maintained by the National Security Agency Research Directorate. This framework includes a suite of full-featured, high-end software analysis tools that enable users to analyze compiled code on a variety of platforms including Windows, macOS, and Linux. Capabilities include disassembly, assembly, decompilation, graphing, and scripting, along with hundreds of other features. Ghidra supports a wide variety of processor instruction sets and executable formats and can be run in both user-interactive and automated modes. Users may also develop their own Ghidra extension components and/or scripts using Java or Python.

In support of NSA's Cybersecurity mission, Ghidra was built to solve scaling and teaming problems on complex SRE efforts, and to provide a customizable and extensible SRE research platform. NSA has applied Ghidra SRE capabilities to a variety of problems that involve analyzing malicious code and generating deep insights for SRE analysts who seek a better understanding of potential vulnerabilities in networks and systems.

If you are a U.S. citizen interested in projects like this, to develop Ghidra and other cybersecurity tools for NSA to help protect our nation and its allies, consider applying for a career with us.

### Security Warning

**WARNING:** There are known security vulnerabilities within certain versions of Ghidra. Before proceeding, please read through Ghidra's Security Advisories for a better understanding of how you might be impacted.

### Install

To install an official pre-built multi-platform Ghidra release:

Install JDK 17 64-bit

Download a Ghidra release file

Extract the Ghidra release file

Launch Ghidra: `./ghidraRun` (or `ghidraRun.bat` for Windows)

For additional information and troubleshooting tips about installing and running a Ghidra release, please refer to `docs/InstallationGuide.html` which can be found in your extracted Ghidra release directory.

### Build

To create the latest development build for your platform from this source repository:

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Install build tools:

Download and extract the source:

Download from GitHub

```
$ unzip ghidra-master $ cd ghidra-master
```

NOTE: Instead of downloading the compressed source, you may instead want to clone the GitHub repository: `git clone https://github.com/NationalSecurityAgency/ghidra.git`

Download additional build dependencies into source repository:

```
$ gradle -I gradle/support/fetchDependencies.gradle init
```

Create development build:

```
$ gradle buildGhidra
```

The compressed development build will be located at `build/dist/` .

For more detailed information on building Ghidra, please read the Developer Guide.

For issues building, please check the Known Issues section for possible solutions.

Develop

User Scripts and Extensions

Ghidra installations support users writing custom scripts and extensions via the GhidraDev plugin for Eclipse. The plugin and its corresponding instructions can be found within a Ghidra release at `Extensions/Eclipse/GhidraDev/` .

## Advanced Development

To develop the Ghidra tool itself, it is highly recommended to use Eclipse, which the Ghidra development process has been highly customized for.

Install build and development tools:

Follow the above build instructions so the build completes without errors

Install Eclipse IDE for Java Developers

Prepare the development environment:

```
$ gradle prepdev eclipse buildNatives
```

Import Ghidra projects into Eclipse:

File -> Import...

General | Existing Projects into Workspace

Select root directory to be your downloaded or cloned ghidra source repository

Check Search for nested projects

Click Finish

When Eclipse finishes building the projects, Ghidra can be launched and debugged with the provided Ghidra Eclipse run configuration.

For more detailed information on developing Ghidra, please read the Developer Guide.

## Contribute

If you would like to contribute bug fixes, improvements, and new features back to Ghidra, please take a look at our Contributor Guide to see how you can participate in this open source project.

## Reference

[Collaborative and Indigenous Mental Health Therapy: Tātaihono â€” Stories of Māori Healing and Psychiatry \(Writing Lives: Ethnographic Narratives\)](#)

[Learn like a Pro: Science-Based Tools to Become Better at Anything](#)