# How to contribute

One of the easiest ways to contribute is to participate in discussions and discuss issues. You can also contribute by submitting pull requests with code changes.

## General feedback and discussions?

Please start a discussion on the repo issue tracker.

## Bugs and feature requests?

For non-security related bugs please log a new issue in the GitHub repo.

## Reporting security issues and bugs

Security issues and bugs should be reported privately, via email, to the Microsoft Security Response Center (MSRC) secure@microsoft.com. You should receive a response within 24 hours. If for some reason you do not, please follow up via email to ensure we received your original message. Further information, including the MSRC PGP key, can be found in the [Security TechCenter](https://technet.microsoft.com/en-us/security/ff852094.aspx).

## Filing issues

When filing issues, please use our [bug filing templates](https://github.com/aspnet/Home/wiki/Functional-bug-template).

The best way to get your bug fixed is to be as detailed as you can be about the problem.

Providing a minimal project with steps to reproduce the problem is ideal.

Here are questions you can answer before you file a bug to make sure you're not missing any important information.

1. Did you read the documentation?

2. Did you include the snippet of broken code in the issue?

3. What are the \*EXACT\* steps to reproduce this problem?

4. What version are you using?

GitHub supports [markdown](https://help.github.com/articles/github-flavored-markdown/), so when filing bugs make sure you check the formatting before clicking submit.

## Contributing code and content

You will need to complete a Contributor License Agreement (CLA) before your pull request can be accepted. This agreement testifies that you are granting us permission to use the source code you are submitting, and that this work is being submitted under appropriate license that we can use it.

You can complete the CLA by going through the steps at the [Contribution License Agreement site](https://cla.microsoft.com). Once we have received the signed CLA, we'll review the request. You will only need to do this once.

Make sure you can build the code. Familiarize yourself with the project workflow and our coding conventions. If you don't know what a pull request is read this article: https://help.github.com/articles/using-pull-requests. The hctcheckin command is your friend.

Before submitting a feature or substantial code contribution please discuss it with the team and ensure it follows the product roadmap. You might also read these two blogs posts on contributing code: [Open Source Contribution Etiquette](http://tirania.org/blog/archive/2010/Dec-31.html) by Miguel de Icaza and [Don't "Push" Your Pull Requests](https://www.igvita.com/2011/12/19/dont-push-your-pull-requests/) by Ilya Grigorik. Note that all code submissions will be rigorously reviewed and tested by the team, and only those that meet an extremely high bar for both quality and design/roadmap appropriateness will be merged into the source.

Here's a few things you should always do when making changes to the code base:

\*\*Engineering guidelines\*\*

The coding, style, and general engineering guidelines follow those described in the docs/CodingStandards.rst. For additional guidelines in code specific to HLSL, see the docs/HLSLChanges.rst file.

\*\*Commit/Pull Request Format\*\*

```

Summary of the changes (Less than 80 chars)

- Detail 1

- Detail 2

Addresses #bugnumber (in this specific format)

```

Your pull request should:

\* Include a description of what your change intends to do

\* Be a child commit of a reasonably recent commit in the master branch

\* Pass all unit tests

\* Have a clear commit message

\* Include adequate tests

\* At least one test should fail in the absence of your non-test code changes. If your PR does not match this criteria, please specify why

\* Tests should include reasonable permutations of the target fix/change

\* Include baseline changes with your change as needed