

## self-profile-events

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The `-Zself-profile-events` compiler flag controls what events are recorded by the self-profiler when it is enabled via the `-Zself-profile` flag.

This flag takes a comma delimited list of event types to record.

For example:

```
$ rustc -Zself-profile -Zself-profile-events=default,args
```

### Event types

- **query-provider**
  - Traces each query used internally by the compiler.
- **generic-activity**
  - Traces other parts of the compiler not covered by the query system.
- **query-cache-hit**
  - Adds tracing information that records when the in-memory query cache is “hit” and does not need to re-execute a query which has been cached.
  - Disabled by default because this significantly increases the trace file size.
- **query-blocked**
  - Tracks time that a query tries to run but is blocked waiting on another thread executing the same query to finish executing.
  - Query blocking only occurs when the compiler is built with parallel mode support.
- **incr-cache-load**
  - Tracks time that is spent loading and deserializing query results from the incremental compilation on-disk cache.
- **query-keys**
  - Adds a serialized representation of each query’s query key to the tracing data.
  - Disabled by default because this significantly increases the trace file size.
- **function-args**
  - Adds additional tracing data to some **generic-activity** events.
  - Disabled by default for parity with **query-keys**.
- **llvm**
  - Adds tracing information about LLVM passes and codegeneration.
  - Disabled by default because this only works when `-Znew-llvm-pass-manager` is enabled.

## Event synonyms

- **none**
  - Disables all events. Equivalent to the self-profiler being disabled.
- **default**
  - The default set of events which strikes a balance between providing detailed tracing data and adding additional overhead to the compilation.
- **args**
  - Equivalent to **query-keys** and **function-args**.
- **all**
  - Enables all events.

## Examples

Enable the profiler and capture the default set of events (both invocations are equivalent):

```
$ rustc -Zself-profile
$ rustc -Zself-profile -Zself-profile-events=default
```

Enable the profiler and capture the default events and their arguments:

```
$ rustc -Zself-profile -Zself-profile-events=default,args
```