

self-profile-events

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
```