



This survey is anonymous.

The record of your survey responses does not contain any identifying information about you.

Section A: Are you part of the target audience?

To start answering the questionnaire, please answer the following questions to confirm that you are part of the target audience.

A1. Have you had experience using IDE (Integrated Development Environment)?

Yes ☐

No ☐

A2. Have you had experience using breakpoints?

Yes ☐

No ☐

Section B: General information

B1. How old are you?

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B2. What is the diploma or highest level of education you have completed?

High school ☐

Undergrad ☐

Master ☐

Doctorate (PhD) ☐

No answer ☐

Other ☐

Other

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B3. If you work or have worked in software development, what position do you hold (or have you held) in the business?

- Full Stack Developer ☐
- Backend Developer ☐
- Front-end Developer ☐
- System Admin ☐
- Mobile Developer ☐
- QA Test ☐
- DevOps Developer ☐
- Database Admin Developer ☐
- Data Scientist ☐
- Embedded Developer ☐
- Product Manager ☐
- Game Developer ☐
- Other ☐

Other

B4. How many years have you experience in software development?

B5. Which of these profiles do you identify with the most?

- I am a professor / teacher ☐
- I am a student ☐
- I am a professional ☐



B6. According to your experience at work or at university, have you studied or have you been introduced to breakpoint types? For example: Line Breakpoint, Conditional Breakpoint, Method Breakpoint, Watchpoint, etc.

Yes ☐

No ☐

I don't know ☐

Section C: Breakpoint types you have experience

C1. From your experience, list the breakpoint types that you have already used or you have some understanding. For example: Line Breakpoint, Conditional Breakpoint, Method Breakpoint, Watchpoint, etc.

Try to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output?

If you don't know any other breakpoint types, you can leave this field blank.

C2.

For each breakpoint type you mentioned above, inform the IDE (Integrated Development Environment) or source code editor where they are found.

Example:

Eclipse: line breakpoint, watchpoint Visual Studio: breakpoint, data breakpoint

If you didn't answer anything in the question above, you can leave these fields blank.

Visual Studio Code



Comment



Visual Studio



Comment

IntelliJ



Comment

Android Studio



Comment

Eclipse



Comment

PyCharm



Comment

Atom



Comment

IPython / Jupyter



Comment

Xcode



Comment



PHPStorm



Comment

NetBeans



Comment

Emacs



Comment

RStudio



Comment

RubyMine



Comment

Vim



Comment

Notepad++



Comment

Sublime Text



Comment

TextMate

Comment

Coda



Comment

Komodo



Comment

Zend



Comment

Light Table

Comment

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Other

Other

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Section D: Breakpoint types you have experience

D1. From your background, indicate if you have experience about each breakpoint type listed below.

[illegible]



	I have no experience about it	I read about it but I have no experience about it	I have some experience because I use it rarely	I have experience because I use it sometimes	I have experience because I use it frequently	I don't want to answer
Static Breakpoint	☐	☐	☐	☐	☐	☐
Conditional Breakpoint	☐	☐	☐	☐	☐	☐
Dynamic Breakpoint	☐	☐	☐	☐	☐	☐
Tracepoint	☐	☐	☐	☐	☐	☐
Logpoint	☐	☐	☐	☐	☐	☐
Thread Breakpoint	☐	☐	☐	☐	☐	☐
Message Breakpoint	☐	☐	☐	☐	☐	☐
Event Breakpoint	☐	☐	☐	☐	☐	☐
Method Breakpoint	☐	☐	☐	☐	☐	☐
Exception Breakpoint	☐	☐	☐	☐	☐	☐
Data Breakpoint	☐	☐	☐	☐	☐	☐
Watchpoint	☐	☐	☐	☐	☐	☐
Field Watchpoint	☐	☐	☐	☐	☐	☐

D2.

From your experience, describe briefly your understanding about the breakpoint type: BreakpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.



D3.

From your experience, describe briefly your understanding about the breakpoint type: Line BreakpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.

D4.

From your experience, describe briefly your understanding about the breakpoint type: Code BreakpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.



D5.

From your experience, describe briefly your understanding about the breakpoint type: Static BreakpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.

D6.

From your experience, describe briefly your understanding about the breakpoint type: Conditional BreakpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.



D7.

From your experience, describe briefly your understanding about the breakpoint type: Dynamic BreakpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.

D8.

From your experience, describe briefly your understanding about the breakpoint type: TracepointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.



D9.

From your experience, describe briefly your understanding about the breakpoint type: LogpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.

D10.

From your experience, describe briefly your understanding about the breakpoint type: Thread BreakpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.



D11.

From your experience, describe briefly your understanding about the breakpoint type: Message BreakpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.

D12.

From your experience, describe briefly your understanding about the breakpoint type: Event BreakpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.



D13.

From your experience, describe briefly your understanding about the breakpoint type: Method BreakpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.

D14.

From your experience, describe briefly your understanding about the breakpoint type: Exception BreakpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.



D15.

From your experience, describe briefly your understanding about the breakpoint type: Data BreakpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.

D16.

From your experience, describe briefly your understanding about the breakpoint type: WatchpointTry to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.



D17.

From your experience, describe briefly your understanding about the breakpoint type: Field Watchpoint Try to inform:

How or where to insert the breakpoint on the source code; For example, is it by inserting a mark on source code line or by inserting some configuration? What causes the breakpoint to stop the execution of the program; For example, is there some events or conditions? What happens after the breakpoint is hit or triggered. For example, the system execution stops or some log is sent to output? Inform the IDE (Integrated Development Environment) or source code editor where it is found. Example: Eclipse, Visual Studio, Visual Studio Code, IntelliJ, etc.

Section E: How much do you agree with those definitions of breakpoint type?

Considering this breakpoint type definition:

Breakpoint is the breakpoint type associated with a line of code.

Where: It is usually inserted over the line of code or eventually over a code tuple contained in the line of code.

Trigger: It is usually triggered when the line of code, that it is associated with, is executed by the system.

Effect: When triggered, it causes the system execution interruption.

Complementary: It usually has associated properties or actions that add extra behavior when triggered. Furthermore, it could contain associated expressions that determines its activation only when the condition is true.

E1. How much do you agree with this definition of breakpoint type?

1 to totally disagree and 10 to totally agree. 1 2 3 4 5 6 7 8 9 10

E2. Select the name(s) that in your opinion is most suitable according to the definition above.

You can select more than one or else inform another one.

Breakpoint ☐

Line Breakpoint ☐



Code Breakpoint ☐

Static Breakpoint ☐

None is suitable ☐

Other ☐

Other

Section F: How much do you agree with those definitions of breakpoint type?

Considering this breakpoint type definition:

Conditional Breakpoint is a breakpoint type associated with an expression.

Where: It is usually inserted as a specific breakpoint type over a line of code, or it could be associated with other breakpoint type such as a configuration usually called property or action.

Trigger: It is triggered whenever the condition related to its associated expression is true. This condition could be related to a data, a count or the existence of a specific object.

Effect: When triggered, it causes the system execution interruption.

F1. How much do you agree with those definitions of breakpoint type?

1 to totally disagree and 10 to totally agree.

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

F2. Select the name(s) that in your opinion is most suitable according to the definition above.

You can select more than one or else inform another one.

Conditional Breakpoint ☐

Dynamic Breakpoint ☐

None is suitable ☐



Other

☐

Other

Section G: How much do you agree with those definitions of breakpoint type?

Considering this breakpoint type definition:

Tracepoint is a debugging control feature similar to a breakpoint and that helps in the debugging task.

Where: It is usually inserted over the line of code.

Trigger: It is usually triggered when the line of code with which it is associated is executed.

Effect: When triggered, it displays a previously defined debug message on the console, not interrupting the system's execution.

Complementary: Furthermore, it could contain associated expressions that determines its activation only when the condition is true.

G1. How much do you agree with those definitions of breakpoint type?

1 to totally disagree and 10 to totally agree.

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

G2. Select the name(s) that in your opinion is most suitable according to the definition above.

You can select more than one or else inform another one.

Tracepoint ☐

Logpoint ☐

None is suitable ☐

Other ☐

Other



Section H: How much do you agree with those definitions of breakpoint type?

Considering this breakpoint type definition:

Thread Breakpoint is a breakpoint type applied to distributed systems and parallel programming, associated with threads.

Where: It is usually related to a thread or thread message via a configuration option.

Trigger: It is usually triggered when the thread with which it is associated starts or stops.

Effect: When associated with a thread message, it is triggered when the message with which it is associated is at the top of the execution queue. When triggered, it causes the entire system execution interruption or just the thread with which it is associated.

Complementary: Furthermore, it could contain associated expressions that determines its activation only when the condition is true.

H1. How much do you agree with those definitions of breakpoint type?

1 to totally disagree and 10 to totally agree.

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

H2. Select the name(s) that in your opinion is most suitable according to the definition above.

You can select more than one or else inform another one.

Thread Breakpoint	☐
Message Breakpoint	☐
None is suitable	☐
Other	☐

Other



Section I: How much do you agree with those definitions of breakpoint type?

Considering this breakpoint type definition:

Event Breakpoint is a breakpoint type that is system execution events oriented.

Where: It is usually inserted by configuration option and eventually over a specific line of code.

Trigger: It is usually triggered when the event to which it is associated is triggered by the system, such as calling a method, creating an object of a specific class, or throwing an exception.

Effect: When triggered, it causes the system execution interruption.

Complementary: Furthermore, it could contain associated expressions that determines its activation only when the condition is true.

I1. How much do you agree with those definitions of breakpoint type?

1 to totally disagree and 10 to totally agree.

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

I2. Select the name(s) that in your opinion is most suitable according to the definition above.

You can select more than one or else inform another one.

Event Breakpoint	☐
Method Breakpoint	☐
Exception Breakpoint	☐
None is suitable	☐
Other	☐

Other



Section J: How much do you agree with those definitions of breakpoint type?

Considering this breakpoint type definition:

Data Breakpoint is a type of data-oriented breakpoint and could be directly related to a memory address.

Where: It is usually inserted over a line of code that contains a field or variable or through configuration options.

Trigger: It is usually triggered when the data it is associated with is read, written or changed. It could also be triggered when the memory address to which it is associated is read, written or changed.

Effect: When triggered, it causes the system execution interruption.

Complementary: Furthermore, it could contain associated expressions that determines its activation only when the condition is true.

J1. How much do you agree with those definitions of breakpoint type?

1 to totally disagree and 10 to totally agree.

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

J2. Select the name(s) that in your opinion is most suitable according to the definition above.

You can select more than one or else inform another one.

Data Breakpoint	☐
Watchpoint	☐
Field Watchpoint	☐
None is suitable	☐
Other	☐

Other



It's done! Your answers have been saved, you can close this window. Thanks for participating and contributing to science.