2020 State of Rust Language Survey

Whether or not you use Rust Programming Language < https://rust-lang.org today, we want to hear from you!

The Rust Community Team has created this survey to help us gauge how we're doing, what can be improved, and how we can best engage with all of you as we move forward.

This is your chance to have a say in the development priorities for Rust.

Unless you choose to enter your email, your answers will be anonymous. Any personal data you submit as a part of this survey will be handled in accordance with our policy as described in our Frequently Asked Questions:

https://github.com/rust-community/team/wiki/State-of-the-Rust-Language-Community-Survey-FAQ

We estimate it will take about 10-15 minutes to complete.

* Required

1.	Do you use Rust? *
	Mark only one oval.
	Yes Skip to question 12
	No, but I've used it in the past Skip to question 2
	No, I've never used Rust Skip to question 8

Stopped using Rust

2.	How long did you use Rust before you stopped?
	Mark only one oval.
	Less than a day
	Less than a week
	Less than a month
	Less than a year
	More than a year
	Option 6
	Option 7
3.	How long ago did you stop using Rust?
	Mark only one oval.
	Less than a day
	Less than a week
	Less than a month
	Less than a year
	More than a year
4.	Why did you stop using Rust?
	Select all that apply
	Check all that apply.
	Rust didn't solve a problem for me
	Rust was too intimidating, too hard to learn, or too complicated
	Rust didn't have the libraries I need
	Rust didn't have the tools I need
	Rust didn't have good IDE support
	Rust didn't support the platforms I need
	Rust seemed too risky to use in production My company doesn't use Rust
	Switching to Rust slowed me down too much
	I needed better interoperability between Rust and other languages
	Other:

f you indicated a				hich of the folk	owing
anguages would y	ou want to use	with Rust?			
Select all that apply					
Check all that apply.					
С					
C++					
C#					
Clojure					
Elm					
Elixir					
Erlang					
Go					
Haskell					
Java					
JavaScript					
Objective-C					
PHP					
Python					
Ruby					
Scala					
Swift					
Other:					
Please provide any	, additional det	ails on why	vou stoppe	d usina Rust.	
reace provide any		G., G., T., T.,	, ou otoppo	a domig rada	

Never used Rust

If you never used Rust, please complete this section. If this doesn't apply, move on to the next page.

8.	I never used Rust because
	Select all that apply
	Check all that apply.
	Rust doesn't solve a problem for me
	Rust is too intimidating, too hard to learn, or too complicated
	Rust doesn't have the libraries I need
	Rust doesn't have the tools I need
	Rust doesn't have good IDE support
	Rust doesn't support the platforms I need
	Rust seems too risky to use in production
	I need better interoperability between Rust and other languages
	My company doesn't use Rust
	Switching to Rust would slow me down too much
	I haven't learned Rust, yet, but I want to.
	I haven't learned Rust, yet, and I don't want to.
	Other:
9.	If you indicated a lack of support for platforms or architectures that you would like to target, which would those be?

10.	If you indicated a desire for increased interoperability, which of the following languages would you want to use with Rust? Select all that apply
	Check all that apply.
	c
	C++
	C#
	Clojure
	Elm
	Elixir
	Erlang
	Go
	Haskell Haskell
	Java
	JavaScript
	Objective-C
	PHP
	Python
	Ruby
	Scala
	Swift
	Other:
11.	Please provide any additional details on why you never used Rust.
Ol-:	to question EE
экір	to question 55

Using Rust

12.	How did you get interested in Rust?
13.	How long have you been working with Rust?
	Mark only one oval.
	Less than a week
	Less than a month
	1 to 3 months
	3 to 6 months
	6 to 12 months
	1 to 2 years
	2 to 3 years
	More than 3 years
14.	How long did it take you to become productive in Rust?
	Mark only one oval.
	Less than a week
	Less than a month
	Less than a year
	More than a year
	I don't feel productive, yet

15.	How many other programming languages did you know when you originally started working with Rust?
	Mark only one oval.
	0
	2
	<u></u>
	4
	<u>5</u>
	6 or more
16.	If you summed the size of all Rust projects you work on, how big would it be?
	Mark only one oval.
	Less than 1,000 lines
	1,000 to 10,000 lines
	10,000 to 100,000 lines
	More than 100,000 lines
	I don't know
17.	How regularly do you work with Rust?
	Mark only one oval.
	Daily
	Weekly
	Monthly
	Rarely

	1	2	3	4	5	6	7	8	9	10	
Beginner											Ехре

18. How would you rate your Rust expertise?

19. iHow would you rate the difficulty of learning these concepts/topics?

Mark only one oval per row.

	Easy	Moderate	Tricky	Very Difficult	Still don't get it	N/A (haven't gotten there yet)
Enums						
Modules						
Ownership & Borrowing						
Iterators						
Traits						
Generics & Trait Bounds						
Lifetimes						
Cargo						
Macros						
Unsafe						
Async I/O						
Pattern Matching						
Collections (Vec, HashMap, etc.)						
Closures						
FFI						
Concurrency (Threads, Locks, Channels, etc.)						

I would use Rust more often if Select all that apply
Check all that apply.
Rust solved more problems for me Rust was less intimidating, easier to learn, or less complicated Rust had the libraries I need Rust had the tools I need Rust had better IDE support Rust supported the platforms I need Rust was less risky to use in production Rust had better interoperability between languages My company used Rust Other:
If you indicated a desire for increased interoperability, which of the following languages would you want to use with Rust? Select all that apply
Check all that apply.
C C++ Clojure Elm Elixir Erlang Go Haskell Java JavaScript Objective-C PHP Python Ruby Scala Swift Other: □

Rust Compiler and Tools

22.	Do you currently use the 2015 or 2018 edition of Rust?
	Mark only one oval.
	2015 Skip to question 35 2018 Both
	Don't Know Skip to question 35
23.	Which version(s) of Rust do you use for your applications? Select all that apply
	Check all that apply.
	Current Stable Release Previous Stable Release Beta Release Nightly Custom Fork I don't know Other:
24.	If you do not use the current Stable compiler, why? Please name specific dependencies or unstable features, if relevant.

25.	If you use a nightly version, do you automatically update or pin a version for use?
	Check all that apply.
	Automatically Update Pin
	Don't know
	Other:
26.	Has upgrading to a new stable version of the Rust compiler (not when upgrading any library dependencies) broken your code in the past year?
	Mark only one oval.
	Yes
	No
	On't recall
27.	If so, how much work did it take to fix your code when you upgraded to a newer stable version of the Rust compiler?
	Mark only one oval.
	1 2 3 4 5
	Very Little Work A Lot of Work
28.	Please provide details about what broke and what was needed to fix it

29.	What's your preferred way of installing Rust? Select all that apply
	Check all that apply.
	 Official <u>rust-lang.org</u> tarballs Official <u>rust-lang.org</u> Windows .msi installers Official <u>rust-lang.org</u> OS X .pkg installers
	rustup.rs
	Linux distribution package
	Other:
20	
30.	If you do not use <u>rustup.rs</u> , why not?
31.	If you do not use Cargo, why not?

32. What is your experience with other tools you use?

Mark only one oval per row.

33.

	Really dislike	Dislike	Neither like or dislike	Like	Really like	Never used
rustfmt						
clippy						
rustdoc or carg	Jo					
racer						
Rust Language Server (RLS)						
rust-analyzer						
bindgen						
IntelliJ Rust						
Feel free to te tools	ll us more abo	ut your ex	perience with	these too	ols, or oth	er Rust

34. For each of the challenges listed below, please indicate whether you believe there has been any change within the last year

Mark only one oval per row.

	Got worse	No change	Slight improvement	Some improvement	A lot of improvement	I don't know
Library Support						
IDE Experience						
Adoption level of Rust						
Available tools and support						
Learning curve						
Stable language features and crates						
Async programming options						
GUI development						
Rust documentation						
Compile time						

Rust Platform

What platforms are you developing on? Select all that apply
Check all that apply.
WindowsWindows (WSL)Apple macOSLinuxBSD-variant
Other:
What platforms are you targeting? Select all that apply
Check all that apply.
Android Windows Apple iOS Apple macOS Linux BSD-variant WebAssembly Embedded asm.js Other:
Are there any platforms or architectures that you would like to target, but currently cannot? (If possible, please provide details, ideally toolchain "triples")

38.	What editor do you use when writing Rust? Select all that apply
	Check all that apply.
	Atom Eclipse Emacs IntelliJ Sublime Vim Visual Studio VSCode Other:
39.	Which IDE setup(s) do you use?
	Check all that apply.
	No special support (or just CTAGS)☐ Only Racer
	RLS
	Rust-analyzer
	IntelliJ Rust
	Other:
Ru	st Ecosystem
40.	What libraries do you consider critical in the Rust ecosystem?

	The Rust ecosystem uses semantic versioning to signal to users if upgrading a library to a particular version is backwards compatible, or contains breaking changes. You can read more about it here: https://doc.rust-lang.org/cargo/reference/manifest.html#the-version-field
	Mark only one oval.
	Yes
	No
2.	If so, please provide details here on how minor version upgrades broke your code.
3.	How many of your dependencies are 1.0 or above? Mark only one oval.
	None
	Some
	Most
	All
	I don't know
4.	What critical libraries are missing in the Rust ecosystem?

41. Has a minor version upgrade of a dependency broken your code?

Rust at Work There are a growing number of companies using Rust at work. This section asks about professional experience with our project.

45.	Do you or your company use Rust at work?
	Mark only one oval.
	Yes, I work with Rust full time Skip to question 49 Yes, I work with Rust part time Skip to question 49 No, but my company uses Rust Skip to question 49 No Skip to question 47 Not sure Skip to question 55 Not applicable Skip to question 55
46.	For programmers - what languages, other than Rust, do you use at work?
	to question 49 t using Rust at Work
47.	Does your company plan to use or evaluate Rust in the future?
	Mark only one oval.
	Yes
	No I don't know
48.	How could we make Rust more appealing to your company?

Using Rust at Work

49.	How many developers at your company use Rust at work?
	Mark only one oval.
	1
	2-5
	6-10
	11-25
	25-100
	More than 100
	I don't know
50.	Approximately how many total employees are in your company?
	Mark only one oval.
	Under 10
	11-49
	50-99
	100-149
	150-199
	200-499
	500-999
	1000-4999
	5000-10,000
	More than 10,000

51.	If you summed the size of all Rust projects at work, how big would it be?
	Mark only one oval.
	Less than 1,000 lines
	1,000 to 10,000 lines
	10,000 to 100,000 lines
	More than 100,000 lines
	I don't know
52.	Is your company planning on hiring Rust developers in the next year?
	Mark only one oval.
	Yes
	No
	I don't know
53.	What are some ways you or your company is using Rust at work?
54.	How could we help make Rust more accepted at your company?

Technical Background

This section asks about your technical and professional experience outside of the Rust project.

Which titles do you believe best match your role? 55. Optional. Select all that apply Check all that apply. Analyst Architect Consultant / Freelance **Data Scientist** Designer DevOps / SRE Executive Founder Hobbyist Manager / Team Leader Programmer / Software Engineer QA Engineer Research Assistant Scientist Student **System Operations** Teacher / Professor **Technical Writer**

Web Developer / Front End Developer

Other: [

56.	What industries do you work in? Optional. Select all that apply
	Check all that apply.
	AdvertisingAdvertising / Marketing TechnologyAerospaceAudio
	Automated Share Trading
	Big Data
	Bioinformatics
	Blockchain
	Computer Administration
	Data Science
	Databases
	Desktop Applications
	Distributed Systems
	Education / Academia
	Embedded Devices
	Enterprise Software
	Financial
	Gaming
	Geospatial
	Government / Military
	Health Care
	High-Performance Computing (HPC)
	Internet of Things
	☐ IT
	Industrial
	Machine Learning
	Entertainment / Media
	Medical Devices
	Mobile (Android)
	Mobile (iOS)
	Network Programming
	Retail / e-commerce
	Robotics
	Scientific and Numeric Computing
	Security
	Simulation
	Technology

	Telecom
	Web Application Backend
	Web Application Frontend
	Other:
57.	How many software developers work at your company?
	Mark only one oval.
	Not Applicable
	None
	1-10
	10-20
	20-50
	50-100
	100-1000
	More than 1000
	I don't know
	1 don't know
58.	Have you contributed to any open source code in the past year?
	Mark only one oval.
	◯ V
	Yes
	O No
59.	If you answered yes, have you ever contributed to a Rust crate or tool?
	Mark only one oval.
	No, but if I find something that bothers me, I'll try to help fix it
	No, and I probably won't
	Yes, a couple times
	Yes, I contribute regularly
	Yes, I maintain crates

60.	What programming languages are you comfortable with? Select all that apply
	Check all that apply.
	С
	C++
	C#
	Clojure
	Elm
	Elixir
	Erlang
	Go
	Haskell
	Java
	JavaScript
	Objective-C
	☐ PHP
	Python
	Ruby
	Rust
	Scala
	Swift
	Other:

61. Please rank your top 5 programming languages in terms of preference: (Please only select 1 per column - Google Forms will not allow you to unselect an option once clicked.)

Check all that apply.

	1st	2nd	3rd	4th	5th
С					
C++					
C#					
Clojure					
Elm					
Elixir					
Erlang					
Go					
Haskell					
Java					
JavaScript					
Objective-C					
PHP					
Python					
Ruby					
Rust					
Scala					
Swift					
Other					

Demographics

Our teams are committed to making the Rust community a welcoming space for all. This will help us measure the effectiveness of our outreach efforts. Feel free to fill in as much or as little as you would like.

62.	Do you feel welcome in the Rust community?
	Mark only one oval.
	Yes
	No
	I don't know
63.	What actions could we take to make you feel more welcome?

64. Do you consider yourself a member of an underrepresented demogra				
	technology?			
	Optional - Select all that apply. Please share only what you are comfortable sharing. This will help us understand how well our outreach efforts are going.			
	Check all that apply.			
	☐ No			
	Yes, but I prefer not to specify			
	Cultural beliefs			
	Disabled or person with disability (including physical, mental, and other)			
	Educational background			
	Language			
	Lesbian, gay, bisexual, queer or otherwise non-heterosexual			
	Non-binary gender			
	Older or younger than the average developers I know			
	Political beliefs			
	Racial or ethnic minority			
	Religious beliefs			
	Trans			
	Woman or perceived as a woman			
	Other:			
65.	Do you feel your situation makes it difficult for you to participate in the Rust			
00.	community?			
	Optional. Please share only what you are comfortable sharing.			
	Mark only one oval.			
	Yes			
	No			
	Maybe			

66.	If you find it difficult to participate in the Rust community, and feel comfortable giving more details, please tell us what makes it difficult Optional. Please share only what you are comfortable sharing.
67.	What city / state / region / country do you live in? Optional. Please share only what you are comfortable sharing. This helps us understand where our community is located so we can help develop local content, meetups, and other events.

68.	What language(s) are you fluent in? Optional - Select all that apply
	Check all that apply.
	Arabic
	Bengali
	Cantonese
	English
	French
	German
	Hindi
	Japanese
	Mandarin Mandarin
	Polish
	Portuguese
	Punjabi
	Russian
	Swedish
	Spanish
	Other:
Ru	ust Community
69.	What resources do you use to keep up with the Rust ecosystem?
	Select all that apply
	Check all that apply.
	This Week in Rust (TWiR)
	Read Rust
	Reddit r/rust
	lobste.rs t/rust
	Twitter
	internals.rust-lang.org (Discourse)
	users.rust-lang.org
	StackOverflow
	Discord
	Zulip
	Private Chat Group
	Other:

Rust Conferences

70.	Did you attend a Rust conference in the past year? If so, which ones?				
	If you wanted to attend a Rust conference, but couldn't, why not?				
	If you wanted to attend a Rust conference, but couldn't, why not?				
	If you wanted to attend a Rust conference, but couldn't, why not?				
	If you wanted to attend a Rust conference, but couldn't, why not?				

72.	If you are interested in attending a Rust conference, which of these regions			
	would you travel to?			
	Select all that apply - This list is derived from https://en.wikipedia.org/wiki/Template:Regions_of_the_world			
	Check all that apply.			
	Africa - North			
	Africa - East			
	Africa - Central			
	Africa - West			
	Africa - South			
	North America - Canada			
	North America - United States			
	North America - Mexico			
	North America - Central			
	North America - Caribbean			
	South America - North			
	South America - South			
	South America - West			
	South America - East			
	Asia - Central			
	Asia - North			
	Asia - East			
	Asia - West			
	Asia - South			
	Asia - Southeast			
	Europe - North			
	Europe - East			
	Europe - Central			
	Europe - West			
	Europe - South			
	Oceania - Australia			
	Oceania - New Zealand			
	Oceania - Melanesia			
	Oceania - Micronesia			
	Oceania - Polynesia			

73.	Please provide more precise details on where you would travel to for a Rust conference
Ch	allenges and Feedback
74.	What do you feel are the biggest challenges or problems for the Rust project? What could we do to improve adoption?
75.	What new things related to the Rust project are you most excited about in 2021?
76.	Anything else you would like to tell us?

Contact Information

If you would like to be contacted by a member of the Rust Community or Core teams, please enter your email address. We will not share this information with third parties. You may also send an email to community-team@rust-lang.org or the core-team@rust-lang.org if you would like to avoid associating your answers in this survey with your identity. If you would like to read more about out how we will use and protect contact information, you can read more about it on our FAQ:

https://github.com/rust-community/team/wiki/State-of-the-Rust-Language-Community-Survey-FAQ

Email Address	
Optional - Only share if you are co	imtortable.
What are the reasons you	would like to be contacted?
ptional - Select all that apply	
Check all that apply.	
I'm interested in attending	g Rust meetups or conferences
I am interested in starting	g a Rust meetup or conference
My company uses Rust, c Community team	or would like to, and I would like to talk to the Core or
I am interested in Rust tra	aining
I am interested in being c	contacted for more details on my survey answers.
f other, why would you lik	o to be contacted?
ptional	e to be contacted:

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