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Disclaimer

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Stint Analyzer

What is Stint Analyzer? I developed Stint Analyzer mostly as a tool to be used for practice sessions to compare different setups as well as compare other drivers lap times against our team. Our team likes to work more on long run setups vs. short run and wanted to compare against others in sessions. Stint Analyzer will show different buckets (averages) of lap times for a Stint. I consider a Stint the time from when you leave pit road until you either pit and leave pit road again or reset your car. This application developed around oval asphalt racing so it might not be suitable for other forms of racing although should function either way. Some of the screen shots were done with AI racing. So, for example you cannot add an AI driver as a friend but used for screen shot purposes only.

About Me

I'm not a Windows Software Developer so there are probably some bugs in the application. Although I try to make sure this software is bug free very hard to account for every situation this software will be used on every computer system that the software will be used on especially internationally.

Donations

First of all, not looking to make money off of this, but if you would like to support the effort you can make a Paypal Donation at <https://www.paypal.com/paypalme/ImRickyT>. Also, you can follow or subscribe to my Twitch channel at <http://twitch.tv/imrickyt>. I really do not want to make this a paid application because I'm not a professional windows programmer, it probably has bugs in the application like all programs do, and if you are paying for a product then you expect excellent service and this is not a full-time job for me. Even if you don't donate, a follow on Twitch would be appreciated. Also, I have a YouTube channel which will have some how-to videos. <https://www.youtube.com/playlist?list=PLLpAgIryinSo6AfwFo7t95zvPNx-0ZTw9>

Special Thanks

Special thank you to all the guys over at Team Crixus for testing, making suggestions, and using this tool. Also had a few other testers as well thank you guys as well for the feedback and testing.



Stint Analyzer Main Screen

The main screen will show all the drivers in your run group and update as they are making laps. It will only show drivers that make laps while you are in the practice session and will start counting once you get into the session. It cannot go back and look at previous laps before you joined the session. If you double click on a row it will show a [summary screen](#) for that stint with some basic information. Your laps will show more information on the summary than others remote drivers.

Stint Analyzer - 2.0.8.5
File Options Help

Track: Charlotte Motor Speedway

	<input type="checkbox"/>	Position	Car Num	Driver	iRating	Stint	Session Type	Number of Laps	Last Lap Time	Current Avg Lap Time	Fastest Lap	3 Lap Avg	5 Lap Avg	7 Lap Avg	10 Lap Avg	15 Lap Avg	20 Lap Avg
	<input type="checkbox"/>	8	18	Kyle Busch	0	1	Practice	26	44.886	31.41053	29.3261	29.4081	29.72096	29.91011	30.2047	30.52114	30.71058
	<input type="checkbox"/>	6	1	Kurt Busch	0	1	Practice	24	43.2224	31.5814	29.0743	29.37117	29.66566	29.92035	30.15605	30.61696	30.94221
	<input type="checkbox"/>	16	41	Cole Custer	0	1	Practice	39	31.9033	31.37676	29.4744	29.81703	29.93492	29.98188	30.28559	30.62117	30.90132
	<input type="checkbox"/>	12	12	Ryan Blaney	0	1	Practice	21	43.7019	31.43344	29.3579	30.58983	30.27028	30.258	30.32577	30.659	30.82002
	<input type="checkbox"/>	27	21	Matt DiBenedetto	0	1	Practice	25	32.0997	31.34581	29.9449	30.1886	30.10612	30.2906	30.43981	30.85068	31.15641
	<input type="checkbox"/>	22	10	Aric Almirola	0	1	Practice	16	43.851	31.77493	29.8143	29.8964	29.96302	30.30043	30.57183	30.96985	
	<input type="checkbox"/>	18	00	Quinn Houff	0	1	Practice	32	44.0401	32.11085	29.5791	30.04467	30.34908	30.50636	30.78168	31.20603	31.43741
	<input type="checkbox"/>	23	47	Ricky Stenhouse Jr.	0	1	Practice	17	32.3055	31.37621	29.7628	30.07683	30.3014	30.46676	30.80312	31.23992	
	<input type="checkbox"/>	28	34	Michael McDowell	0	1	Practice	21	32.232	31.67872	30.1748	30.2923	30.71016	30.86746	31.09898	31.41999	31.65106
	<input type="checkbox"/>	30	13	Ty Dillon	0	1	Practice	30	43.8314	32.33739	30.4633	30.5399	30.6852	30.86115	31.10426	31.42477	31.68871
	<input type="checkbox"/>	29	3	Austin Dillon	0	1	Practice	45	43.8008	32.40035	30.4319	30.6041	30.66782	30.77639	31.08634	31.48098	31.70386
	<input type="checkbox"/>	21	32	Corey LaJoie	0	1	Practice	52	32.9873	32.41242	30.3886	30.75257	31.0206	31.31325	31.50518	31.70872	31.90623
	<input type="checkbox"/>	2	11	Denny Hamlin	0	4	Practice	24	42.8332	33.07031	29.4366	43.73	38.20104	36.05007	34.31186	33.17553	32.80018
	<input type="checkbox"/>	3	4	Kevin Harvick	0	3	Practice	36	43.5226	32.72862	29.8555	45.6919	39.4207	36.8403	34.86411	33.52602	33.00623
	<input type="checkbox"/>	11	2	Brad Keselowski	0	4	Practice	30	43.1733	32.97193	29.426	45.73847	39.39012	36.7211	34.76488	33.60657	33.02032
	<input type="checkbox"/>	20	15	Brennan Poole	0	4	Practice	22	44.4183	33.74558	29.9741	44.16	38.73592	36.27204	34.64846	33.632	33.27063
	<input type="checkbox"/>	17	8	Tyler Reddick	0	6	Practice	50	32.0375	32.38491	29.8888	46.19353	39.8814	37.41794	35.31657	33.92496	33.29896
	<input type="checkbox"/>	18	00	Quinn Houff	0	2	Practice	59	43.8986	32.9075	29.8062	45.95776	39.76876	37.09437	35.24942	33.99415	33.49281
	<input type="checkbox"/>	22	10	Aric Almirola	0	5	Practice	17	43.4408	34.50331	30.1196	45.8523	39.86002	37.24733	35.51756	34.08349	
	<input type="checkbox"/>	19	48	Jimmie Johnson	0	2	Practice	30	33.3588	33.00127	29.8068	48.30846	41.10636	37.96742	35.74991	34.18871	33.52637
	<input type="checkbox"/>	10	19	Marlin Truex Jr.	0	2	Practice	40	44.2206	32.93215	29.4479	49.67913	41.6525	38.27816	35.98459	34.23816	33.52267
	<input type="checkbox"/>	12	12	Ryan Blaney	0	9	Practice	24	31.6076	33.3635	29.6355	47.8833	41.07576	38.10093	36.04454	34.46038	33.64286
	<input type="checkbox"/>	16	41	Cole Custer	0	3	Practice	21	31.273	33.77243	29.4063	51.3914	42.72884	39.02273	36.50473	34.62679	33.8974
	<input type="checkbox"/>	26	43	Darrell Wallace Jr.	0	3	Practice	15	32.6211	34.91511	30.3766	48.4271	41.49016	38.5084	36.23242	34.91511	
	<input type="checkbox"/>	8	18	Kyle Busch	0	6	Practice	18	43.3838	35.11839	29.285	53.15623	43.84318	40.28263	37.29381	35.09682	
	<input type="checkbox"/>	5	14	Clint Bowyer	0	5	Practice	42	43.0408	33.22821	29.6225	54.12236	44.41002	40.33588	37.51337	35.24711	34.32167
	<input type="checkbox"/>	2	11	Denny Hamlin	0	3	Practice	29	43.2134	33.81952	29.4249	53.9594	44.42048	40.36623	37.46726	35.27021	34.23354
	<input type="checkbox"/>	25	17	Chris Buescher	0	3	Practice	16	44.6259	35.94399	29.8366	51.9825	43.46548	39.73864	37.08987	35.3652	
	<input type="checkbox"/>	28	34	Michael McDowell	0	2	Practice	16	32.3503	35.43641	30.6756	52.73396	44.06774	40.42286	37.60892	35.64215	
	<input type="checkbox"/>	9	19	Kyle Busch	0	2	Practice	28	43.460	34.38633	29.4244	56.76367	45.93004	41.13463	38.04406	35.20168	34.65306

Compare 2 Stints Export Selected to CSV Export All Clear Graph Selected Take Screenshot

Connected

Status: disconnected, waiting for sim...

You can see the different lap average columns. These are a fixed number of averages and not customizable. You can sort on each of the column headings as well. The fastest laps in each column will be highlighted in yellow. As you scroll over to the right you will see for your stint the setup that was used during this run.

More information about Discord later but also from this screen you can click the Discord Icon to go into the Discord Setup Screen.

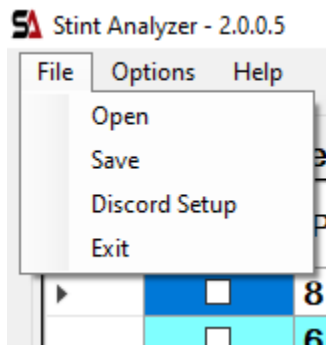
There are action buttons at the bottom that will be covered later in this document.

Add/Remove Friends

If you right click on any line in the grid you can Add/Remove someone as a friend. This will sort your friends to the top of the grid.

Driver	iRa
Kyle Busch	0
Kurt Busch	0
Cole Custer	0
Ryan Blaney	0
Matt DiBenedetto	0

File Menu

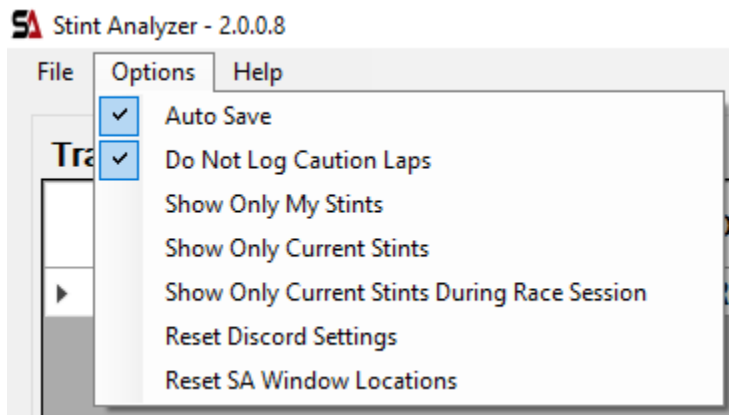


From the File menu, you can Open/Save a session so that you can re-open it later. When you click Save it will show you a File Dialog box to let you choose where to save the file. The file will be saved in a JSON (text file) format. The default folder is your Documents folder \StintAnalyzer. If you change to a different folder this will become your new Default Folder as it remembers the last place you save files. These file names start with the track name, car name, and either a small description of the file and/or timestamp from the session to help you track the files a little easier.

You can click Discord Setup to setup the Discord Integration. More on this later in this document.

Exit will close the program.

Options Menu



Autosave will automatically save the session to your Default Folder when the program closes or when a new session starts (ie going from practice/qualify/race). This file will be saved in your Documents Folder/StintAnalyzer by default.

Do Not Log Caution Laps will not log the lap times under caution. This will help not skew the lap averages while pacing. Although this tool is mostly meant for practice this will help not have large swings in lap times.

You have 3 different view filters you can set.

Show Only My Stints will just show the laps you are running. All other lap times for other drivers will still be recorded but only yours will be shown.

Show Only Current Stints will show just the last stint a driver is currently on. When a new stint is started that stint will be replaced with a new stint.

Show Only Current Stints During Race Session is same as Show Only Current Stints but will automatically be set on when the session turns to race. This is so during practice you might want to leave all stints showing but during the race maybe only show the current stint to make the screen less cluttered.

You can also reset the Discord Settings. This is a fail-safe in case something gets messed up this will set everything back to default.

And Reset the Windows Locations. This might come in handy if you move the Windows off the screen. The program remembers where you place the windows and should set them back to the defaults

You will notice a Stint Analyzer Icon in your system tray while the application is running. You can right click on this icon to reset your windows locations as well.

Stint Summary

Double clicking on a line in the grid will bring up a Stint Summary. This stint summary shows more information for the players car than it does others. For example, Tire Wear/Temps/Water Temps/Oil Temps/Fuel are not shown for other drivers. RPM is provided by iRacing. Speed for other drivers is calculated based on time/distance traveled so it might be a little different than what you might see on the replay screen but should be fairly close. The players car speed is provided by iRacing. Also a grid showing the individual laps and information for that stint. Remember your car provides more information line Water Temp, Oil Temp, Fuel Used, Tire Temps. iRacing does not provide certain information for other players cars.

Stint Analyzer - 2.0.0.5

Driver: Kyle Busch
Track: charlotte 2018 oval
Car: Toyota Camry Class A

Setup:

Left Front
Temps
0 0 0
Wear
0 0 0

Right Front
Temps
0 0 0
Wear
0 0 0

Left Rear
Temps
0 0 0
Wear
0 0 0

Right Rear
Temps
0 0 0
Wear
0 0 0

No of Laps: 26
Fastest Laptime: 29.3261
Avg Laptime: 31.41053

Min/Max RPM: 3003.74 / 8969.86
Min/Max Speed: 77.65 / 193.49
Min/Max Oil Temp: 0 / 0
Min/Max Water Temp: 0 / 0
Fuel Used: 0
Fuel Left: 0

Stint Lap	Lap	Lap Time	Avg Lap Time	Track Temp	Fuel Left	Fuel Used	Max Fuel Level	Min Water Temp	Max Water Temp	Min Oil Temp	Max Oil Temp	Min RPM	Max RPM	Min Speed	Max Speed	Min Throttle	Max Throttle
1	5	29.3344	29.3344	83.99999	0	0	0	0	0	0	0	8778.992	8778.992	0	0	0	0
2	6	29.5638	29.4491	83.99999	0	0	0	0	0	0	0	7743.704	8928.654	165.3249	193.485	0	0
3	7	29.3261	29.4061	85.00002	0	0	0	0	0	0	0	8098.834	8969.856	169.7866	188.4375	0	0
4	8	30.309	29.63333	85.00002	0	0	0	0	0	0	0	7714.26	8796.456	164.5197	183.838	0	0
5	9	30.0715	29.72096	85.00002	0	0	0	0	0	0	0	7735.055	8810.978	165.9581	182.4678	0	0
6	10	30.5473	29.85868	85.00002	0	0	0	0	0	0	0	7568.157	8691.985	160.3198	182.0867	0	0
7	11	30.2187	29.91011	86	0	0	0	0	0	0	0	7682.736	8779.143	162.1839	185.4302	0	0
8	12	30.805	30.02198	86	0	0	0	0	0	0	0	7444.273	8648.424	157.7347	181.4251	0	0
9	13	31.0621	30.13755	86	0	0	0	0	0	0	0	7332.721	8677.463	154.8617	182.2326	0	0
10	14	30.8091	30.2047	86	0	0	0	0	0	0	0	7289.854	8726.677	150.7836	182.9718	0	0
11	15	30.6824	30.24813	86	0	0	0	0	0	0	0	7408.884	8696.459	153.5641	182.2135	0	0

Notice: Some information on this screen is estimated and may not be accurate as iRacing does not supply all the data

Take Screenshot Cancel

Compare 2 Stints

Stint Analyzer - 2.0.0.6

Track: Charlotte Motor Speedway

Driver 1 Name	Driver 1 Stint	Driver 1 Stint Lap	Driver 1 Lap	Driver 1 Lap Time	Driver 1 Avg Lap Time	Driver 2 Name	Driver 2 Stint	Driver 2 Stint Lap	Driver 2 Lap	Driver 2 Lap Time	Driver 2 Avg Lap Time	Difference
Martin Truex Jr.	1	1	3	41.9444	41.9444	Brad Keselow...	2	1	6	149.6351	149.6351	-107.6907
Martin Truex Jr.	1	2	4	135.7449	88.8447	Brad Keselow...	2	2	7	29.8258	89.7303	105.9193
Martin Truex Jr.	1	3	5	29.6406	69.11	Brad Keselow...	2	3	8	30.3902	69.9503	-0.7496
Martin Truex Jr.	1	4	6	30.0575	59.3468	Brad Keselow...	2	4	9	29.3392	59.7975	0.7163
Martin Truex Jr.	1	5	7	30.1512	53.5077	Brad Keselow...	2	5	10	29.8209	53.8022	0.3303
Martin Truex Jr.	1	6	8	29.5178	49.5094	Brad Keselow...	2	6	11	29.6523	49.7772	-0.1345
Martin Truex Jr.	1	7	9	29.6271	46.6691	Brad Keselow...	2	7	12	29.8449	46.9297	-0.2178
Martin Truex Jr.	1	8	10	29.7531	44.5546	Brad Keselow...	2	8	13	30.4894	44.8747	-0.7363
Martin Truex Jr.	1	9	11	30.8404	43.0308	Brad Keselow...	2	9	14	31.4887	43.3874	-0.6483
Martin Truex Jr.	1	10	12	30.52	41.7797	Brad Keselow...	2	10	15	30.4878	42.0974	0.0322
Martin Truex Jr.	1	11	13	30.6682	40.7696	Brad Keselow...	2	11	16	30.4972	41.0428	0.171
Martin Truex Jr.	1	12	14	30.4264	39.9078	Brad Keselow...	2	12	17	31.1298	40.2168	-0.7034
Martin Truex Jr.	1	13	15	31.6814	39.2748	Brad Keselow...	2	13	18	30.8	39.4924	0.8814
Martin Truex Jr.	1	14	16	31.1801	38.6952	Brad Keselow...	2	14	19	31.0448	38.889	0.1153
Martin Truex Jr.	1	15	17	30.9655	38.1799	Brad Keselow...	2	15	20	31.2556	38.3901	-0.2901
Martin Truex Jr.	1	16	18	31.5765	37.7672	Brad Keselow...	2	16	21	31.4093	37.9444	0.1672
Martin Truex Jr.	1	17	19	31.4104	37.3933	Brad Keselow...	2	17	22	31.4862	37.5645	-0.0758
Martin Truex Jr.	1	18	20	30.8797	37.0314	Brad Keselow...	2	18	23	31.1689	37.2092	-0.2892
Martin Truex Jr.	1	19	21	31.1605	36.7224	Brad Keselow...	2	19	24	31.8249	36.9258	-0.6644
Martin Truex Jr.	1	20	22	31.2717	36.4499	Brad Keselow...	2	20	25	31.3291	36.646	-0.0574
Martin Truex Jr.	1	21	23	31.4185	36.2103	Brad Keselow...	2	21	26	31.4342	36.3978	-0.0157
Martin Truex Jr.	1	22	24	31.1111	35.9785	Brad Keselow...	2	22	27	31.5689	36.1784	-0.4588

Take Screenshot Cancel

From the main screen you can select 2 stint by placing a check mark in the check box and clicking Compare 2 Stints. It will just choose the first 2 stints it comes to. If you select more than 2 it will just use the first 2 it comes to. It will show you the difference between the first stint to the second stint with a lap time difference.

Export Selected to CSV and Export All

Export Selected to CSV and Export All will write out a CSV file for all the stints that have a check mark beside them or all stints. This will include lap times by each lap. This also shows more detail than the stint Summary.

I attempt to show tire temps at the end of each stint and also show max/min speed/water temp/oil temp/rpm/brake/throttle/steering angles information for each lap. Some of this is experimental so take it with a grain of salt if you see something wrong (i.e. 5000 mph or steering angle that is upside down).

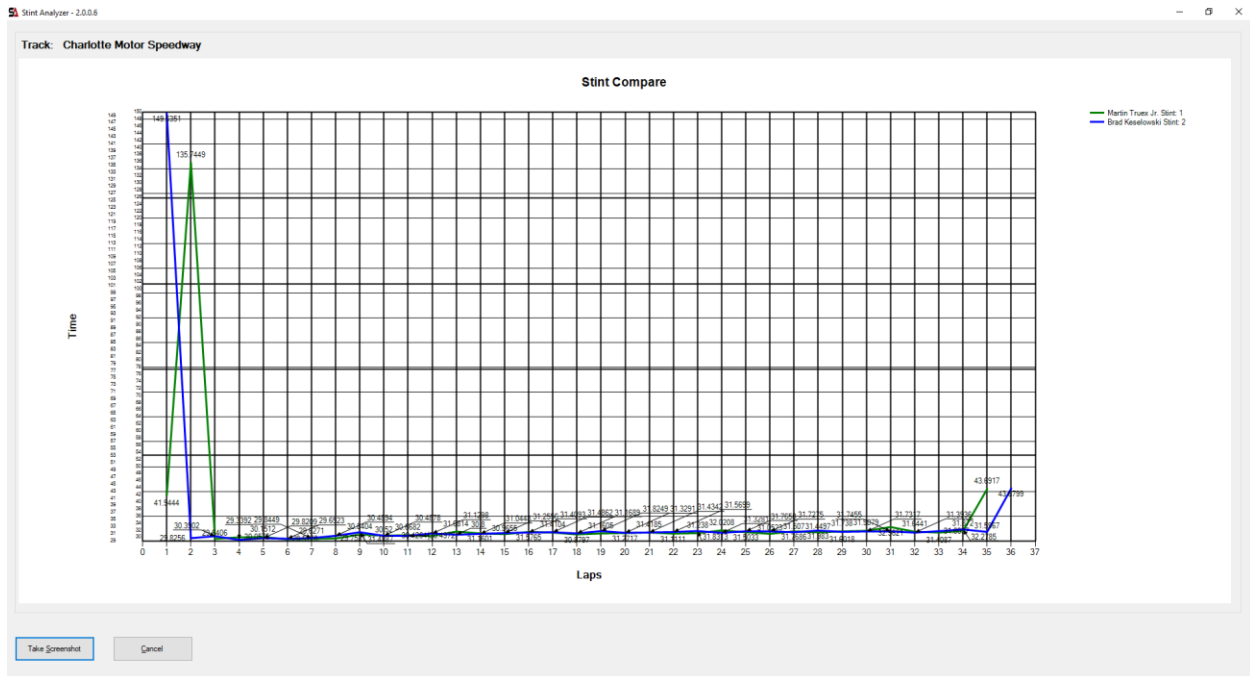
This can be used to open in Excel or Google Sheets and do your own graphing or calculations on. Once you click the Export Selected a File Dialog box will open asking you to save the CSV File. The following columns will be exported to the CSV file.

Driver
Stint
Stint Lap
Lap
Lap Time
Avg Lap Time
Track Temp
Session Type
Tire Wear
Tire Temp
Fuel Left
Fuel Used
Max Fuel Level
Min Water Temp
Max Water Temp
Min Oil Temp
Max Oil Temp
Min Rpm
Max Rpm
Min Speed
Max Speed
Min Throttle
Max Throttle
Min Brake
Max Brake
Min Steering
Max Steering
Setup Name

Clear

Clear will clear all the data to let you start collecting data again.

Graph Selected



Graph Selected will graph the laps you place a check mark by. And display in a nice tidy graph. Excel might have some better graphing options but this will allow you to visually see if a stint was faster than another. You can select several laps on the graph by placing you mouse on a lap and left clicking and dragging to the right like you would a selection. Also you can use your mouse wheel to zoom in and out on sections of the graph.

You will notice the Take Screenshot button on most of the screens. This will allow you to create a PNG file of the current screen. This will open a file dialog box and allow you to save to any folder or the default folder /Documents/StintAnalyzer. If you enable Discord Integration it can automatically upload to Discord.

irDiscord BOT Today at 3:28 PM

File uploaded by: Ricky Thompson

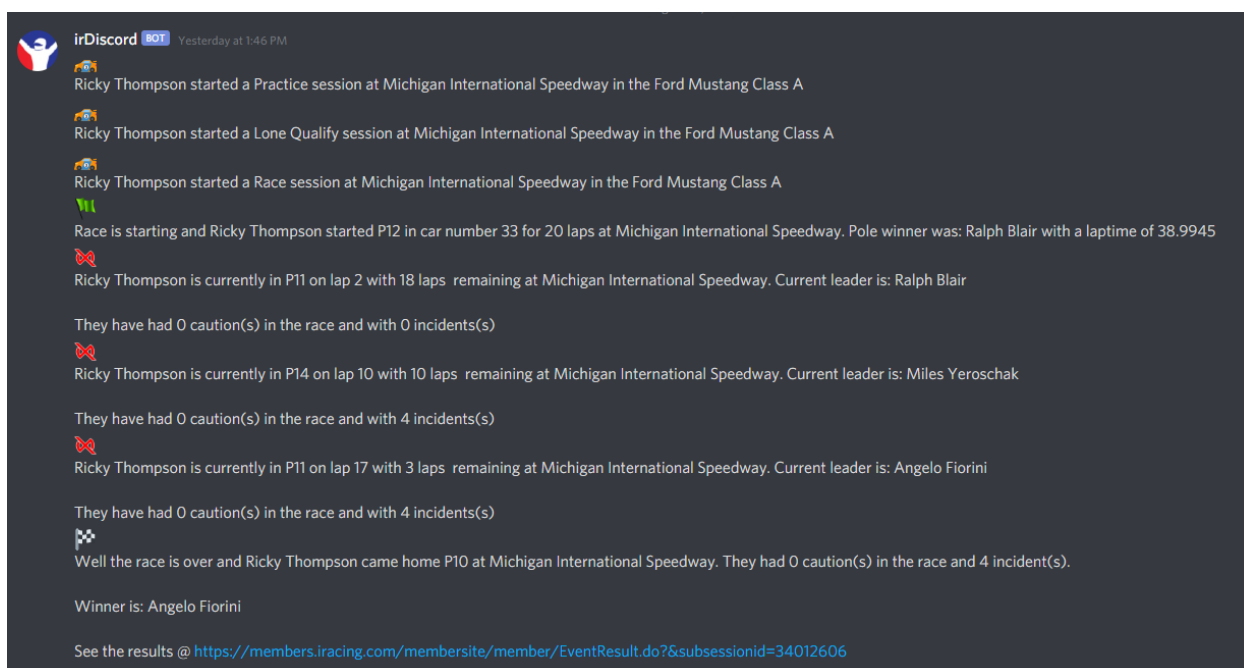
Track: Classification Model Summary																
Rank	Position	City Name	Street	Rating	Star	Location Type	Number of Lays	Last Lay Time	Current Avg Time	Target Lay Time	1-100 Avg	1-100 Avg	1-100 Avg	1-100 Avg	1-100 Avg	1-100 Avg
1	1	42	Rita Linton	0	1	Practice	13	27:35.00	30:30.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
2	2	42	Rita Linton	0	1	Practice	13	27:35.00	30:30.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
3	3	42	Rita Linton	0	1	Practice	8	27:35.00	30:30.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
4	4	42	Rita Linton	0	1	Practice	8	27:35.00	30:30.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
5	5	42	Rita Linton	0	1	Practice	26	28:48.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
6	6	42	Rita Linton	0	1	Practice	24	43:42.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
7	7	42	Rita Linton	0	1	Practice	36	38:38.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
8	8	42	Rita Linton	0	1	Practice	24	43:42.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
9	9	42	Rita Linton	0	1	Practice	21	43:48.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
10	10	42	Rita Linton	0	1	Practice	20	39:09.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
11	11	42	Rita Linton	0	1	Practice	17	42:58.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
12	12	42	Rita Linton	0	1	Practice	32	40:00.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
13	13	42	Rita Linton	0	1	Practice	32	40:00.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
14	14	42	Rita Linton	0	1	Practice	32	40:00.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
15	15	42	Rita Linton	0	1	Practice	32	40:00.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
16	16	42	Rita Linton	0	1	Practice	32	40:00.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
17	17	42	Rita Linton	0	1	Practice	32	40:00.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
18	18	42	Rita Linton	0	1	Practice	32	40:00.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
19	19	42	Rita Linton	0	1	Practice	32	40:00.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
20	20	42	Rita Linton	0	1	Practice	32	40:00.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
21	21	42	Rita Linton	0	1	Practice	32	40:00.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
22	22	42	Rita Linton	0	1	Practice	32	40:00.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
23	23	42	Rita Linton	0	1	Practice	32	40:00.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10
24	24	42	Rita Linton	0	1	Practice	32	40:00.00	31:43.00	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10	29:22.10

Discord Integration

Before continuing, if you do not want to integrate Stint Analyzer with Discord then you do not need to do anything on the Discord Setup screen.

Discord Integration allows the user to setup a Discord Bot on a Server they own to upload attachments and race updates.

Race updates are sent periodically while you are in a session. For example, at the start of a session a message goes out and each time that session changes. You can set up an interval in minutes to give in race updates to your progress. Messages like below might be sent to your Discord Status Update Channel.



The way our team uses the data attachment is after we run practice sessions, we upload the CSV files to our Discord Server and analyze the data. They can use Excel or Google Sheets to open the CSV and manipulate the data however they need to.

When you first go into the Discord Setup everything will be disabled but Discord Integration Enabled, Discord Bot Id and Discord Bot Token. The documentation below will show you how to obtain the Discord Bot Id and Discord Bot Token. Remember to only share this information with people you trust. If for example a team member leaves you can always regenerate the Bot Token and then you will need to hand out this Token to the team again.

If you are going to use Discord Integration you must first create your Bot.

Continue to the [Creating Discord Bot](#) Section to create your Bot and fill in the required fields and return to the section to finish the Discord Integration Setup.

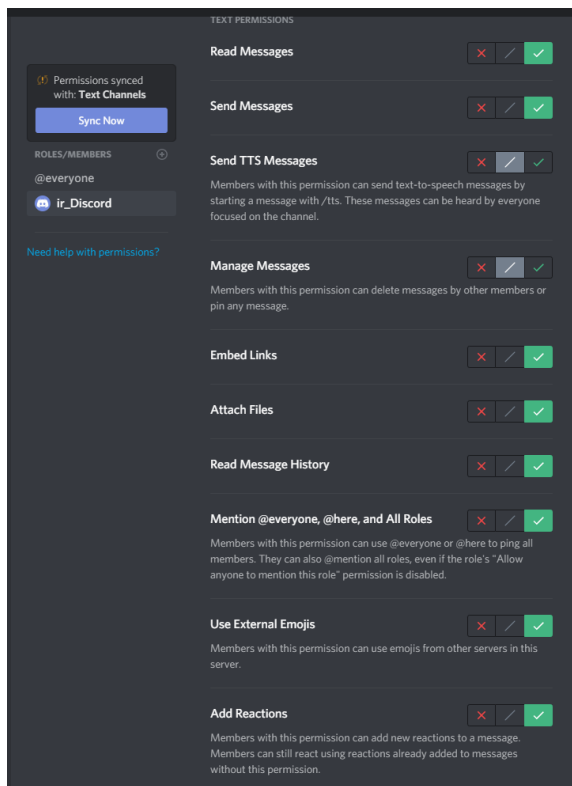
The screenshot shows the 'Discord Integration Setup' window in Stint Analyzer - 2.0.0.0. The window has a title bar with the application name and version. The main area contains several configuration options:

- Discord Integration Enabled**: A checkbox that is checked.
- Allow Discord to Send Attachments**: A checkbox that is checked, with a note '(send csv and chart images)'.
- Prompt Before Sending Attachments**: A checkbox that is unchecked, with a note '(if selected will you get a prompt before sending files to Discord)'.
- Send Race Updates**: A checkbox that is unchecked.
- Discord Bot Id**: A text field containing the value '740210577896636496'.
- Discord Bot Token**: A text field containing a long alphanumeric string.
- Discord Status Update Channel Id**: A dropdown menu.
- Discord Attachment Channel Id**: A dropdown menu.
- Joining a Session Message**: A text area containing a template message: '{driverName} started a {sessionType} session at {trackName} in the {carName}'. To the right of this text area is a 'Send Text Message' button.
- Race Start Message**: A text area containing a template message: 'Race is starting and {driverName} is currently P(position) in car number {carNumber} for {raceLength} at {trackName}'. To the right of this text area is a 'Send Te...' button.
- Race Update Message**: A text area containing a template message: '{driverName} is currently in P(position) on lap {currentLap} with {raceRemaining} remaining at {trackName}. They have had {cautions} caution(s) in the race and with {incidents} incident(s)'.
- Interval to Send Race Updates**: A text field containing the value '20', with a note '(minutes must be between 5 and 2000)'.
- Results Update Message**: A text area containing a template message: 'Well the race is over and {driverName} came home P(position) at {trackName}. They had {cautions} caution(s) in the race and {incidents} incident(s). Winner is: {leader}'.

At the bottom of the window are 'Save' and 'Cancel' buttons.

After getting the required fields press Save. Then open back up the Discord Setup Page again.

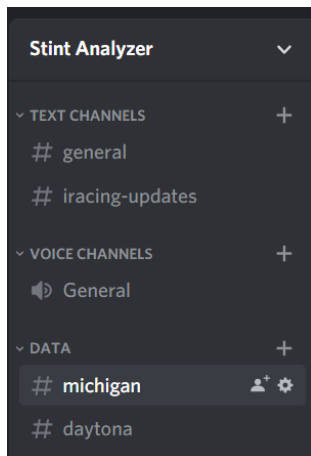
A couple of items to cover about Discord. Discord Users are setup with permissions. I am not going into this a lot because there is documentation about the User Permissions on the internet. Whatever permissions you setup on each Channel for the Bot User is the permissions this application will use. So, if you only want the Bot to have access to certain channels give the Bot permissions to those channels. If a Bot does not have permission to a channel it will not be able to send messages or attachments. The bot will need at least the Read Messages/Send Message/Embed Links/Attach Files Permissions. The following is how I have ours setup because I do use some emojis. The below screen shot is the only ones I allow the bot to use for myself.



The only channels that you can send updates of attachments to are Text Channels.

Discord has a folder structure called Categories. You can create a category and have currently up to 50 Text Channels under that Category.

Notice I have a category setup as Data with all the tracks we go to underneath it. In the Stint Analyzer Discord Setup this allows me to set Discord Attachment Channel to a Category (Data). Then only the Channels under that Category are shown in a drop-down box when uploading data. You can also set it to *ALL and show all text channels the bot has access to.



After opening up the Discord Setup screen again, if everything is entered correctly, you should now see drop down boxes for Discord Status Update Channel Id and Discord Attachment Channel Id filled with specific channels the bot has access to.

Now try the test buttons. Send Test Message and Sent Test Attachment and make sure you server is setup correctly. If not, you should get an error message at the bottom of the screen.

On the Setup Screen Discord Status Update Channel Id is locked to be only 1 text channel because you will never be prompted for these during a race session.

The screenshot shows the Discord Setup interface. It includes a text input for 'Discord Status Update Channel Id' with the value '740205315609591810' and a dropdown menu for 'Discord Attachment Channel Id' currently showing 'daytona'. Below these are message templates for 'Joining a Session Message' and 'Race Start Message'. A dropdown menu is open for the 'Discord Attachment Channel Id', showing a list of categories and channels: 'ALL', 'Category: Data', 'Category: Text Channels', 'Category: Voice Channels', 'Text: daytona', 'Text: general', 'Text: racing-updates', and 'Text: michigan'.

On the attachment channel remember if you select a category it will only show the text channels underneath that Category.

This section contains four settings, each with a checkbox and a description: 'Discord Integration Enabled' (checked), 'Allow Discord to Send Attachments' (checked) with the note '(send csv and chart images)', 'Prompt Before Sending Attachments' (checked) with the note '(if selected will you get a prompt before sending files to Discord)', and 'Send Race Updates' (checked).

If you have Allow Discord to Send Attachments each time you go to save a CSV file or Take a screenshot the file will attempt to be sent to Discord. If you have a text channel selected and you have Prompt Before Sending Attachment Clicked, you will get a warning message Asking do you want to send to Discord Yes/No. If you have a category selected no matter how you have Prompt Before Sending Attachments you will get a prompt so that we can figure out what channel to send it to. If you turn off Allow Discord to Send Attachment you will never see this screen.

The screenshot shows a window titled 'Stint Analyzer - 2.0.0.0'. It contains a prompt 'Upload to Discord as well?' with 'Yes' and 'No' buttons. Below the prompt is a dropdown menu labeled 'Channel' with 'michigan' selected.

Joining a Session Message	<pre> race_car: {driverName} started a {sessionType} session at {trackName} in the {carName} </pre>
Race Start Message	<pre> race_car: Race is starting and {driverName} is currently P{position} in car number {carNumber} for {raceLength} at {trackName} </pre>
Race Update Message	<pre> triangular_flag_on_post: {driverName} is currently in P{position} on lap {currentLap} with {raceRemaining} remaining at {trackName}. They have had {cautions} caution(s) in the race and with {incidents} incidents(s) </pre>
Interval to Send Race Updates	<input type="text" value="20"/> (minutes must be between 5 and 2000)
Results Update Message	<pre> :checkered_flag: Well the race is over and {driverName} came home P{position} at {trackName}. They had {cautions} caution(s) in the race and {incidents} incident(s). Winner is: {leader} </pre>

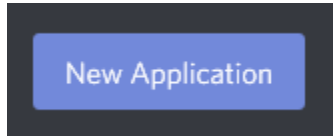
You can also select whether or not to send Race Updates. These race updates are sent at the beginning of a session or each time a session changes, during the session an update is sent on the interval that you enter. The interval is in minutes. I purposely set the minimum to 5 mins as you don't want to spam your Discord server every couple of minutes. Be kind to the other users and set it to something reasonable. 20 minutes goes by faster than you think.

There are several place holder variables that can be replaced in the text to help make the discord messages unique and personalized to you. You could add a Twitch/YouTube link as well to the messages if you are a streamer. See a list below under the [Variable Placeholders](#) section.

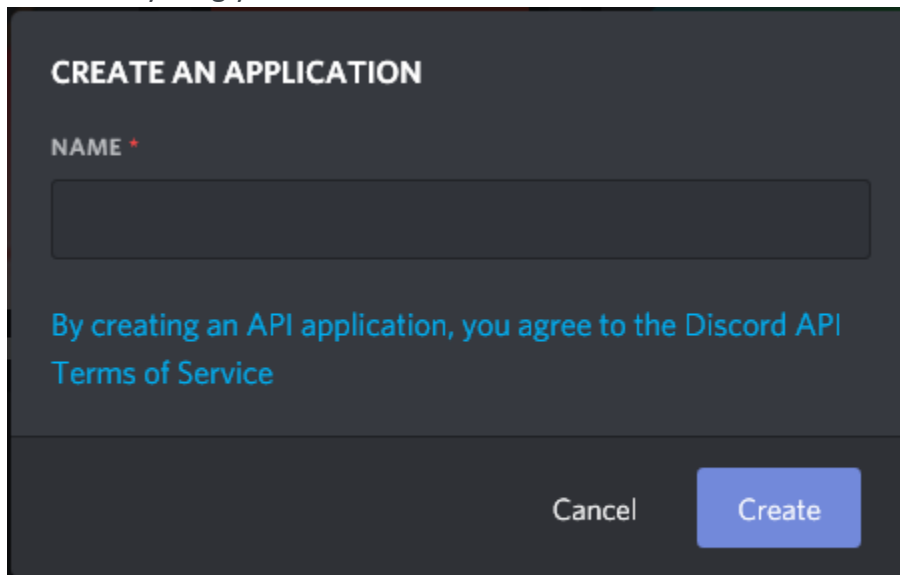
Creating Discord Bot

This will describe creating a bot for a Discord Server you own. Only the owner of a Discord Server can set this up.

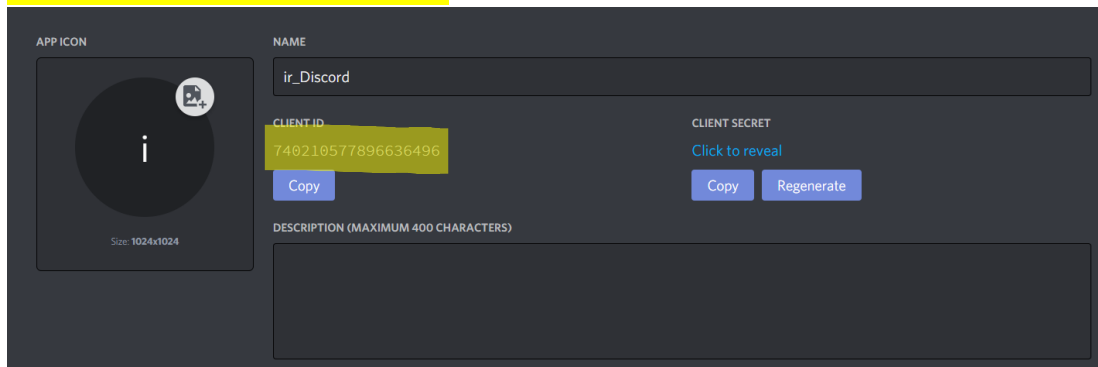
1. Navigate to <https://discord.com/developers/applications>. You may be asked to sign into using your Discord Username/Password to setup the bot.
2. You will see a button at the top right for New Application



3. Give the application a name and click "Create". I called mine StintAnalyzer but you can name it anything you like.

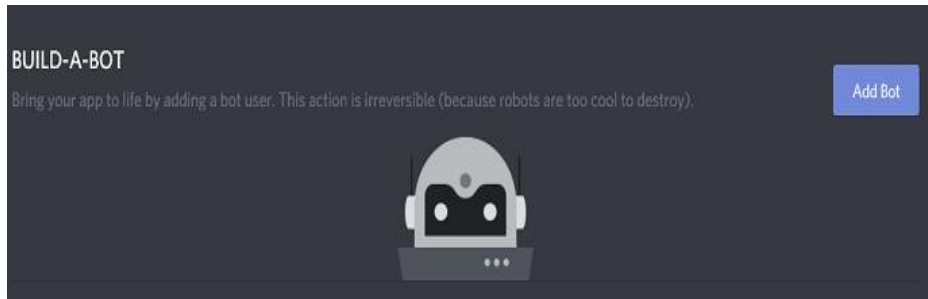
A screenshot of the "CREATE AN APPLICATION" form on the Discord developer portal. The form has a dark grey background. At the top, it says "CREATE AN APPLICATION" in white. Below that is a label "NAME *" in white. Under the label is a text input field. Below the input field is a line of text in blue: "By creating an API application, you agree to the Discord API Terms of Service". At the bottom right, there are two buttons: a "Cancel" button in white text on a dark grey background, and a "Create" button in white text on a blue background.

4. After you click create you will be at the General Information Tab. You will need the Client ID for the Discord Setup in Stint Analyzer. You can click the Copy button and put the Client ID in the Discord Bot Id.



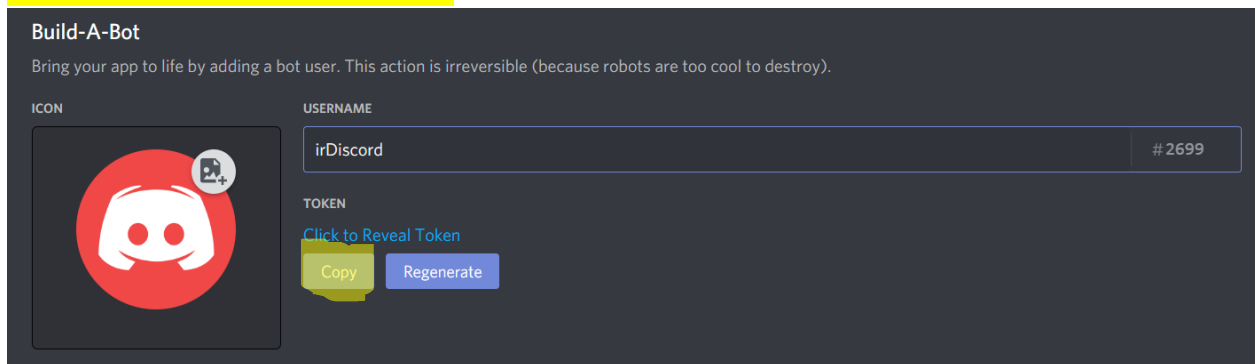
This screenshot shows the 'General Information' tab for a Discord bot. On the left, there is a section for the 'APP ICON' with a placeholder image of a lowercase 'i' and a note 'Size: 1024x1024'. To the right, the 'NAME' field is filled with 'ir_Discord'. Below the name, the 'CLIENT ID' is displayed as '740210577896636496' and is highlighted with a yellow box; a 'Copy' button is located directly beneath it. To the right of the Client ID, the 'CLIENT SECRET' is shown as a link 'Click to reveal', with 'Copy' and 'Regenerate' buttons below it. At the bottom, there is a large text area for the 'DESCRIPTION (MAXIMUM 400 CHARACTERS)'.

5. Create a Bot User by navigating to the “Bot” tab and clicking “Add Bot”.
- Click “Yes, do it!” to continue.



This screenshot shows the 'BUILD-A-BOT' screen. At the top left, the title 'BUILD-A-BOT' is followed by the instruction 'Bring your app to life by adding a bot user. This action is irreversible (because robots are too cool to destroy)'. On the right side, there is a blue 'Add Bot' button. In the center of the screen is a stylized robot head icon.

6. Copy the token using the “Copy” button. You will need to save this Token to enter the Stint Analyzer Discord Setup screen under Discord Bot Token. The token is a long string with random letters and numbers.



This screenshot shows the 'Build-A-Bot' screen with the 'TOKEN' section expanded. On the left, there is an 'ICON' section with a placeholder image of the Discord logo. To the right, the 'USERNAME' field is filled with 'irDiscord' and followed by a discriminator code '# 2699'. Below the username, the 'TOKEN' is displayed as a link 'Click to Reveal Token'. A yellow box highlights the 'Copy' button located below the token link, with a 'Regenerate' button to its right.

7. Now we need to invite your new bot to your Discord Server. Go to the OAuth2 Tab.
8. Tick the “bot” checkbox under “scopes”.

SCOPES

☐ identify

☐ email

☐ connections

☐ guilds

☐ guilds.join

☐ gdm.join

☐ rpc

☐ rpc.api

☐ rpc.notifications.read

☒ bot

☐ webhook.incoming

☐ messages.read

☐ applications.builds.upload

☐ applications.builds.read

☐ applications.store.update

☐ applications.entitlements

https://discordapp.com/api/oauth2/authorize?client_id=0000000000000000&permissions=0&scope=bot

Copy

9. We need to give your bot certain permissions. Currently the only permissions needed are View Channels, Send Messages, Embed Links, Attach Files (optionally you can include Mention Everyone, Use External Emojis, Add Reactions, Read Message History)

BOT PERMISSIONS

GENERAL PERMISSIONS	TEXT PERMISSIONS	VOICE PERMISSIONS
<input type="checkbox"/> Administrator	<input checked="" type="checkbox"/> Send Messages	<input type="checkbox"/> Connect
<input type="checkbox"/> View Audit Log	<input type="checkbox"/> Send TTS Messages	<input type="checkbox"/> Speak
<input type="checkbox"/> View Server Insights	<input type="checkbox"/> Manage Messages	<input type="checkbox"/> Video
<input type="checkbox"/> Manage Server	<input checked="" type="checkbox"/> Embed Links	<input type="checkbox"/> Mute Members
<input type="checkbox"/> Manage Roles	<input checked="" type="checkbox"/> Attach Files	<input type="checkbox"/> Deafen Members
<input type="checkbox"/> Manage Channels	<input type="checkbox"/> Read Message History	<input type="checkbox"/> Move Members
<input type="checkbox"/> Kick Members	<input checked="" type="checkbox"/> Mention Everyone	<input type="checkbox"/> Use Voice Activity
<input type="checkbox"/> Ban Members	<input type="checkbox"/> Use External Emojis	<input type="checkbox"/> Priority Speaker
<input type="checkbox"/> Create Instant Invite	<input type="checkbox"/> Add Reactions	
<input type="checkbox"/> Change Nickname		
<input type="checkbox"/> Manage Nicknames		
<input type="checkbox"/> Manage Emojis		
<input type="checkbox"/> Manage Webhooks		
<input checked="" type="checkbox"/> View Channels		

10. After setting the permissions you will need to copy the URL link above in the scopes section and paste it into your web browser

`https://discordapp.com/api/oauth2/authorize?client_id=0000000000000000&permissions=0&scope=bot` Copy

11. You will now add the Bot to the Discord Server. The setup should be complete at this point and you can return to the [Discord Integration Setup](#).

ADD BOT TO:

Stint Analyzer

This requires you to have **Manage Server** permission in this server.

Cancel Continue

Variable Placeholders

Variable place holders are so that you can make the race updates a little more customized to your liking. These are case sensitive and must be spelled correctly and surrounded by {}.

{carName} = Name iRacing supplies for the car name
{carNumber} = Your car number
{cautions} = Number of Cautions during the race
{currentLap} = Current Lap the leader is on
{finishPosition} = Race Finish Position
{driverName} = Your iRacing Name
{incidents} = The number of incidents you have gotten so far if team event it will show both the team and driver
{link} = Race result link to the iRacing Website
{leader} = Current leader
{poleWinner} = Pole Winner from Qualifying Session
{poleWinnerLapTime} = Pole Winners Lap Time from Qualifying Session if they qualify. If not, it will be -1
{position} = Your current position
{qualifyTime} = Your Lap Time form Qualifying Session if you qualify. If not, it will be -1
{raceLength} = Laps or time
{raceRemaining} = Laps or time remaining
{raceWinner} = Race Winner
{sessionType} = Session Type (practice, offline test, warmup qualifying, race)
{startPosition} = Start position from Qualifying
{trackName} = Name of the Track

MultiClass

{class} = Class name
{classFinishPosition} = Class Finish Position
{classLeader} = Current Class Leader
{classPoleWinner} = Class Pole Winner
{classPoleWinnerLapTime} = Class Pole Winner Laptime
{classRaceWinner} = Class Race Winner
{classStartPosition} = Class Start Position

Friend

{friendStartPosition} = Friend Start Position
{friendQualifyTime} = Friend Qualifying Time
{friendClassStartPosition} = Friend Class Start Position
{friendCurrentPosition} = Friend Current Position
{friendClassCurrentPosition} = Friend Class Current Position
{friendFinishPosition} = Friend Finish Position
{friendClassFinishPosition} = Friend Class Finish Position
{friendName} = Friends Name
{friendClass} = Friends Class Name

{friendCar} = Friends Car Name