

Updated 11/11/13

****Please Note****

The following performance tweaks REQUIRE
a 64bit OS, Java7, and a minimum of 3GBs of free RAM.

I will also continue to keep these updated
if I find better ways to increase performance.

Special thanks to Keybounce for his research and ideas

The following arguments are meant to increase the performance of heavily modded Minecraft.

Each spoiler below is for Servers, MultiMC5, and the new FTBLauncher respectively.

These arguments are an extreme optimization to memory and compilation.

Feedback is always appreciated, though keep it constructive and preferably with logs.

[Original Argument Post](#)

[spoiler=Server][plain]

-Xms2048m -Xmx2048m -XX:PermSize=256m -XX:ReservedCodeCacheSize=512m -XX:NewRatio=4
-XX:SurvivorRatio=3 -XX:TargetSurvivorRatio=80 -XX:MaxTenuringThreshold=8 -XX:+UseParNewGC
-XX:+UseConcMarkSweepGC -XX:SoftRefLRUPolicyMSPerMB=0 -XX:MaxGCPauseMillis=20
-XX:GCPauseIntervalMillis=250 -XX:MaxGCMinorPauseMillis=7 -XX:+CMSClassUnloadingEnabled
-XX:+ExplicitGCInvokesConcurrentAndUnloadsClasses -XX:+UseCMSInitiatingOccupancyOnly
-XX:CMSInitiatingOccupancyFraction=50 -XX:+BindGCTaskThreadsToCPUs -XX:+TieredCompilation
-XX:Tier0ProfilingStartPercentage=0 -XX:Tier3InvocationThreshold=3 -XX:Tier3MinInvocationThreshold=2
-XX:Tier3CompileThreshold=2 -XX:Tier3BackEdgeThreshold=10 -XX:Tier4InvocationThreshold=4
-XX:Tier4MinInvocationThreshold=3 -XX:Tier4CompileThreshold=2 -XX:Tier4BackEdgeThreshold=8
-XX:TieredCompileTaskTimeout=5000 -XX:Tier3DelayOn=50 -XX:Tier3DelayOff=25
-XX:+UseFastEmptyMethods -XX:-DontCompileHugeMethods -XX:+AlwaysCompileLoopMethods
-XX:+CICompilerCountPerCPU -XX:+UseStringCache -XX:+UseNUMA

Setting up:

Copy and paste the above arguments into the .bat/.sh file you use to start your server.

Adjust Xms and Xmx to your desired RAM amount leaving at least 1GB open for PermGen and CodeCache

*note:setting the Heap above 4GB may cause issues with garbage collection

[/plain][spoiler]

[Spoiler=MultiMC 5][plain]

-XX:ReservedCodeCacheSize=512m -XX:NewRatio=4 -XX:SurvivorRatio=3 -XX:TargetSurvivorRatio=80
-XX:MaxTenuringThreshold=8 -XX:+UseParNewGC -XX:+UseConcMarkSweepGC
-XX:SoftRefLRUPolicyMSPerMB=0 -XX:MaxGCPauseMillis=20 -XX:GCPauseIntervalMillis=250
-XX:MaxGCMinorPauseMillis=7 -XX:+CMSClassUnloadingEnabled
-XX:+ExplicitGCInvokesConcurrentAndUnloadsClasses -XX:+UseCMSInitiatingOccupancyOnly
-XX:CMSInitiatingOccupancyFraction=50 -XX:+BindGCTaskThreadsToCPUs -XX:+TieredCompilation
-XX:Tier0ProfilingStartPercentage=0 -XX:Tier3InvocationThreshold=3 -XX:Tier3MinInvocationThreshold=2
-XX:Tier3CompileThreshold=2 -XX:Tier3BackEdgeThreshold=10 -XX:Tier4InvocationThreshold=4
-XX:Tier4MinInvocationThreshold=3 -XX:Tier4CompileThreshold=2 -XX:Tier4BackEdgeThreshold=8
-XX:TieredCompileTaskTimeout=5000 -XX:Tier3DelayOn=50 -XX:Tier3DelayOff=25

-XX:+UseFastEmptyMethods -XX:-DontCompileHugeMethods -XX:+AlwaysCompileLoopMethods
-XX:+CICompilerCountPerCPU -XX:+UseStringCache -XX:+UseNUMA

Setting up:

Click the Icon with the screwdriver and computer.

Select the tab that says Java

Set Minimum memory allocation to 2048, maximum memory allocation to 2048, and permgen to 256.

Copy the arguments above and paste them into JVM arguments

[/plain][spoiler]

[Spoiler=FTB Launcher (New)][plain]

-Xms2048m -XX:PermSize=256m -XX:ReservedCodeCacheSize=512m -XX:NewRatio=4 -XX:SurvivorRatio=3
-XX:TargetSurvivorRatio=80 -XX:MaxTenuringThreshold=8 -XX:+UseParNewGC
-XX:+UseConcMarkSweepGC -XX:SoftRefLRUPolicyMSPerMB=0 -XX:MaxGCPauseMillis=20
-XX:GCPauseIntervalMillis=250 -XX:MaxGCMinorPauseMillis=7 -XX:+CMSClassUnloadingEnabled
-XX:+ExplicitGCInvokesConcurrentAndUnloadsClasses -XX:+UseCMSInitiatingOccupancyOnly
-XX:CMSInitiatingOccupancyFraction=50 -XX:+BindGCTaskThreadsToCPUs -XX:+TieredCompilation
-XX:Tier0ProfilingStartPercentage=0 -XX:Tier3InvocationThreshold=3 -XX:Tier3MinInvocationThreshold=2
-XX:Tier3CompileThreshold=2 -XX:Tier3BackEdgeThreshold=10 -XX:Tier4InvocationThreshold=4
-XX:Tier4MinInvocationThreshold=3 -XX:Tier4CompileThreshold=2 -XX:Tier4BackEdgeThreshold=8
-XX:TieredCompileTaskTimeout=5000 -XX:Tier3DelayOn=50 -XX:Tier3DelayOff=25
-XX:+UseFastEmptyMethods -XX:-DontCompileHugeMethods -XX:+AlwaysCompileLoopMethods
-XX:+CICompilerCountPerCPU -XX:+UseStringCache -XX:+UseNUMA

Setting up:

Click the options cog in the bottom left of the launcher

Set the slider to 2.0GB

Copy the arguments above and paste them into additional JVM parameters.

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[Spoiler=For the Curious]

[How They Work: In a Nutshell](#) <<< Still in the process of writing this

[/spoiler]

[Spoiler=Legalese]

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life and
eating your children.

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