**Parsec 3.0**

* Sites:
  + Overview: <https://parsec.cs.princeton.edu/overview.htm>
  + Download: https://parsec.cs.princeton.edu/download/3.0/
* Preparação do ambiente:
  + Instruções de instalação no arquivo “README”
    - source env.sh
    - instalar pkg-config: apt-get install pkg-config
    - Pasta config >> arquivo gcc.bldconf
      * inclusão da flag **–std=c++11** no arquivo gcc.bldconf na pasta config
        + export CXXFLAGS="-O3 -g -funroll-loops -fprefetch-loop-arrays -fpermissive -fno-exceptions **-std=c++11** ${PORTABILITY\_FLAGS}"
    - Erros na compilação:
      * parsecmgmt -a build
      * parsecmgmt -a build –c gcc
      * parsecmgmt -a build –c icc
      * parsecmgmt -a build -p netapps
      * parsecmgmt -a build –p pthreads –c gcc-pthreads
      * parsecmgmt -a build -p splash2
    - Sucesso na compilação:
      * parsecmgmt -a build -p openmp -c gcc-openmp
      * parsecmgmt -a build -p gsl -c gcc-serial
      * parsecmgmt -a build -p tbblib -c gcc-tbb
      * parsecmgmt -a build -p hooks -c gcc-hooks

**Pacotes (Packages)**

* Acessar a pasta “parsec-3.0
* Executar commando: source env.sh
* Utilizar arquivo README para referência aos pacotes e programas
* Executar as compilações conforme tabela abaixo

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| **Pacote** | **Comando para compilação** | **Resultado** |
| blackscholes | parsecmgmt -a build -p blackscholes | Compilou com sucesso. |
| bodytrack | parsecmgmt -a build -p bodytrack | Compilou com sucesso. |
| facesim | parsecmgmt -a build -p facesim | make[2]: \*\*\* [/usr/local/parsec-3.0/pkgs/apps/facesim/obj/amd64-linux.gcc/Public\_Library/Makefile.common:407: obj/Collisions\_And\_Interactions/COLLISION\_BODY\_LIST\_3D.o] Error 1  make[2]: Leaving directory '/usr/local/parsec-3.0/pkgs/apps/facesim/obj/amd64-linux.gcc/Public\_Library'  make[1]: \*\*\* No rule to make target '/usr/local/parsec-3.0/pkgs/apps/facesim/obj/amd64-linux.gcc/lib/libPhysBAM.a', needed by 'facesim'. Stop.  make[1]: Leaving directory '/usr/local/parsec-3.0/pkgs/apps/facesim/obj/amd64-linux.gcc/Benchmarks/facesim'  make: \*\*\* [Makefile:16: all] Error 2  [PARSEC] Error: 'env version=pthreads PHYSBAM=/usr/local/parsec-3.0/pkgs/apps/facesim/obj/amd64-linux.gcc CXXFLAGS=-O3 -g -funroll-loops -fprefetch-loop-arrays -fpermissive -fno-exceptions -std=c++11 -static-libgcc -Wl,--hash-style=both,--as-needed -DPARSEC\_VERSION=3.0-beta-20150206 -fexceptions /usr/bin/make' failed. |
| ferret | parsecmgmt -a build -p ferret | make: \*\*\* [Makefile:108: /usr/local/parsec-3.0/pkgs/apps/ferret/obj/amd64-linux.gcc/parsec/obj/LSH\_query.o] Error 1  [PARSEC] Error: 'env version=pthreads CFLAGS=-I/usr/local/parsec-3.0/pkgs/libs/gsl/inst/amd64-linux.gcc/include -I/usr/local/parsec-3.0/pkgs/libs/libjpeg/inst/amd64-linux.gcc/include -O3 -g -funroll-loops -fprefetch-loop-arrays -static-libgcc -Wl,--hash-style=both,--as-needed -DPARSEC\_VERSION=3.0-beta-20150206 LDFLAGS=-L/usr/local/parsec-3.0/pkgs/libs/gsl/inst/amd64-linux.gcc/lib -L/usr/local/parsec-3.0/pkgs/libs/libjpeg/inst/amd64-linux.gcc/lib -L/usr/lib64 -L/usr/lib /usr/bin/make' failed. |
| fluidanimate | parsecmgmt -a build -p fluidanimate | Compilou com sucesso. |
| freqmine | parsecmgmt -a build -p freqmine | Compilou com sucesso. |
| raytrace | parsecmgmt -a build -p raytrace | No package 'xext' found  Consider adjusting the PKG\_CONFIG\_PATH environment variable if you  installed software in a non-standard prefix.  Alternatively, you may set the environment variables XLIBGL\_CFLAGS  and XLIBGL\_LIBS to avoid the need to call pkg-config.  See the pkg-config man page for more details.  [PARSEC] Error: 'env ./configure --with-driver=xlib --enable-glut --enable-static --disable-shared --prefix=/usr/local/parsec-3.0/pkgs/libs/mesa/inst/amd64-linux.gcc' failed. |
| swaptions | parsecmgmt -a build -p swaptions | | ^~~~~~  make[1]: \*\*\* [../../build/Makefile.tbbmalloc:70: proxy.o] Error 1  make[1]: Leaving directory '/usr/local/parsec-3.0/pkgs/libs/tbblib/obj/amd64-linux.gcc/build/linux\_intel64\_gcc\_cc11.3.0\_libc2.35\_kernel5.15.90.1\_debug'  make: \*\*\* [Makefile:49: tbbmalloc] Error 2  [PARSEC] Error: 'env compiler=gcc PATH=/usr/bin:/usr/local/parsec-3.0/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/snap/bin:/usr/local/parsec-3.0/bin CXXFLAGS=-O3 -g -funroll-loops -fprefetch-loop-arrays -fpermissive -fno-exceptions -static-libgcc -Wl,--hash-style=both,--as-needed -DPARSEC\_VERSION=3.0-beta-20150206 -fexceptions /usr/bin/make' failed. |
| vips | parsecmgmt -a build -p vips | Compilou com sucesso. |

**Execuções**

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| Run benchmark 'fft' from SPLASH-2x w/ input 'simsmall' and 4 threads | parsecmgmt -a run -p splash2x.fft -i simsmall -n 4 > result/exec-001-splash2x-fft.txt | exec-001-splash2x-fft.txt |
| Run benchmark 'fft' from SPLASH-2x w/ input 'simsmall' and 16 threads | parsecmgmt -a run -p splash2x.fft -i simsmall -n 4 > result/exec-002-splash2x-fft.txt | exec-002-splash2x-fft.txt |
| blackscholes | parsecmgmt -a run -p blackscholes -i test |  |
| blackscholes | parsecmgmt -a run -p blackscholes -i simdev |  |
| blackscholes | parsecmgmt -a run -p blackscholes -i simsmall |  |
| blackscholes | parsecmgmt -a run -p blackscholes -i simlarge |  |
| blackscholes | parsecmgmt -a run -p blackscholes -i native |  |
| vips | parsecmgmt -a run -p vips -i test |  |
| vips | parsecmgmt -a run -p vips -i simdev |  |
| vips | parsecmgmt -a run -p vips -i simsmall |  |
| vips | parsecmgmt -a run -p vips -i simlarge |  |
| vips | parsecmgmt -a run -p vips -i native |  |

EXPLORAR O PARALELISMO –N

parsecmgmt -a run -p fluidanimate -i native -n 16

parsecmgmt -a run -p blackscholes -i native -n 16

parsecmgmt -a run -p freqmine -i native -n 16

parsecmgmt -a run -p vips -i native -n 16

parsecmgmt -a run -p fluidanimate -i native -n 8

parsecmgmt -a run -p blackscholes -i native -n 8

parsecmgmt -a run -p freqmine -i native -n 8

parsecmgmt -a run -p vips -i native -n 8

parsecmgmt -a run -p fluidanimate -i native -n 4

parsecmgmt -a run -p blackscholes -i native -n 4

parsecmgmt -a run -p freqmine -i native -n 4

parsecmgmt -a run -p vips -i native -n 4

parsecmgmt -a run -p fluidanimate -i native -n 2

parsecmgmt -a run -p blackscholes -i native -n 2

parsecmgmt -a run -p freqmine -i native -n 2

parsecmgmt -a run -p vips -i native -n 2

parsecmgmt -a run -p fluidanimate -i native

parsecmgmt -a run -p blackscholes -i native

parsecmgmt -a run -p freqmine -i native

parsecmgmt -a run -p vips -i native