**Informe pruebas de carga**

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# Micro controlador

## Tablas

**Obtener Microcontrolador**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Etiqueta** | **#muestras** | **media play** | **min** | **max** | **desv.estandar** | **%error play** | **rendimiento** | **kb/sec** | **Sent KB/ sec** | **Media de bytes** |
| ObtenerMicrocontrolador1 | 10 | 11 | 9 | 25 | 4.583666655 | 0 | 0.18514061 | 0.70765661 | 0 | 3914 |
| ObtenerMicrocontrolador1 | 100 | 6 | 4 | 37 | 3.237529923 | 0 | 1.68211408 | 6.42948683 | 0 | 3914 |
| ObtenerMicrocontrolador1 | 500 | 5 | 3 | 79 | 4.384242694 | 0 | 8.32099053 | 31.8050361 | 0 | 3914 |
| ObtenerMicrocontrolador1 | 1000 | 241 | 2 | 5181 | 873.6535496 | 0 | 16.5881494 | 63.4043133 | 0 | 3914 |
| ObtenerMicrocontrolador1 | 5000 | 8 | 1 | 727 | 38.50640352 | 0 | 80.6282554 | 308.182609 | 0 | 3914 |
| CrearMueblePrueba1 | 100000 | 5185 | 0 | 68405 | 10476.47993 | 0.06582 | 417.608025 | 231.726411 | 0 | 568.2071 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Crear Microcontrolador** | | | | | | | | | | |
| **Etiqueta** | **#muestras** | **media play** | **min** | **max** | **desv.estandar** | **%error play** | **rendimiento** | **kb/sec** | **Sent KB/ sec** | **Media de bytes** |
| CrearMicrocontrolador1 | 10 | 20 | 16 | 33 | 5.068530359 | 0 | 0.18507894 | 0.03235267 | 0 | 179 |
| CrearMicrocontrolador1 | 100 | 11 | 4 | 61 | 6.492849914 | 0 | 1.68168976 | 0.29396725 | 0 | 179 |
| CrearMicrocontrolador1 | 500 | 8 | 6 | 23 | 1.601612937 | 0 | 8.30730378 | 1.45215564 | 0 | 179 |
| CrearMicrocontrolador1 | 1000 | 7 | 6 | 70 | 3.065197547 | 0 | 16.5382198 | 2.89095835 | 0 | 179 |
| CrearMicrocontrolador1 | 5000 | 11 | 2 | 694 | 37.81150406 | 0 | 78.3809628 | 13.7013597 | 0 | 179 |
| CrearMicrocontrolador1 | 10000 | 6 | 1 | 716 | 13.84690465 | 0 | 145.087343 | 25.3619476 | 0 | 179 |
| CrearMicrocontrolador1 | 50000 | 349 | 1 | 17580 | 1568.317454 | 0.04816 | 311.790676 | 79.533758 | 0 | 261.20912 |

## Grafica Error Vs número de muestras

## Grafica Tiempo ejecución Vs número de muestras

# Alertas

## Tablas

**Obtener Alertas**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Etiqueta** | **#muestras** | **media play** | **min** | **max** | **desv.estandar** | **%error play** | **rendimiento** | **kb/sec** | **Sent KB/ sec** | **Media de bytes** |
| Obtener alerta | 10 | 27 | 19 | 69 | 13.99142595 | 0 | 0.18500361 | 0.0343 | 0 | 190 |
| Obtener alerta | 100 | 14 | 11 | 78 | 7.225482683 | 0 | 1.68024868 | 0.3118 | 0 | 190 |
| Obtener alerta | 500 | 11 | 5 | 67 | 4.636457268 | 0 | 8.29737803 | 1.5396 | 0 | 190 |
| Obtener alerta | 1000 | 9 | 4 | 118 | 5.60061702 | 0 | 16.4579253 | 3.0537 | 0 | 190 |
| Obtener alerta | 5000 | 19 | 2 | 625 | 58.71209293 | 0 | 79.191612 | 14.694 | 0 | 190 |
| Obtener alerta | 10000 | 9 | 2 | 587 | 29.59503469 | 0 | 146.151823 | 27.118 | 0 | 190 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Crear Alertas** | | | | | | | | | | |
| **Etiqueta** | **#muestras** | **media play** | **min** | **max** | **desv.estandar** | **%error play** | **rendimiento** | **kb/sec** | **Sent KB/ sec** | **Media de bytes** |
| Crear alerta | 10 | 21 | 16 | 42 | 7.896834809 | 0 | 0.18508579 | 0.034 | 0 | 188 |
| Crear alerta | 100 | 13 | 9 | 71 | 6.664975619 | 0 | 1.68112434 | 0.3086 | 0 | 188 |
| Crear alerta | 500 | 8 | 4 | 38 | 2.213771443 | 0 | 8.3143489 | 1.5265 | 0 | 188 |
| Crear alerta | 1000 | 7 | 3 | 79 | 3.122287463 | 0 | 16.5144584 | 3.032 | 0 | 188 |
| Crear alerta | 5000 | 6 | 2 | 163 | 8.225189484 | 0 | 79.3978467 | 14.577 | 0 | 188 |

## Grafica Error Vs número de muestras

## Grafica Tiempo ejecución Vs número de muestras

# Registro medición

## Tablas

**Crear Registros de medición**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Etiqueta** | **# Muestras** | **Media** | **Min** | **Max** | **Desv. Estandar** | **% Error** | **Rendimiento** | **Kb/sec** | **Sent KB/sec** | **Media de Bytes** |
| Post registro medicion | 10 | 4 | 4 | 7 | 0.9433981132056569 | 0.0 | 0.1851646113394808 | 0.07124497740991742 | 0.0432171309669296 | 394.0 |
| Post registro medicion | 100 | 4 | 3 | 37 | 33,087,006,513,131,400 | 0.0 | 16,825,669,240,994,000 | 0.6473939141554356 | 0.3927084910739825 | 394.0 |
| Post registro medicion | 500 | 3 | 3 | 37 | 2,372,225,958,883,340 | 0.0 | 8,328,197,611,472,920 | 3,204,404,159,101,880 | 19,437,883,097,090,100 | 394.0 |
| Post registro medicion | 1000 | 2 | 2 | 35 | 13,478,393,821,223,600 | 0.0 | 1,663,091,020,971,570 | 6,399,002,561,160,170 | 388,162,845,715,046 | 394.0 |
| Post registro medicion | 2500 | 5 | 1 | 567 | 15,408,667,166,241,200 | 0.0 | 41,042,142,071,479 | 15,791,605,445,471,400 | 9,579,171,831,136,210 | 394.0 |
| Post registro medicion | 5000 | 1631 | 1 | 14,032 | 22,373,066,916,388,100 | 0.038 | 6,699,718,611,818,300 | 30,278,279,093,528,000 | 1,504,283,109,171,910 | 462.78 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Dar Registros de medición** | | | | | | | | | | |
| **Etiqueta** | **# Muestras** | **Media** | **Min** | **Max** | **Desv. Estandar** | **% Error** | **Rendimiento** | **Kb/sec** | **Sent KB/sec** | **Media de Bytes** |
| Get registro medicion | 10 | 27 | 25 | 35 | 27,640,549,922,170,600 | 0.0 | 0.18509949097639983 | 8,186,738,995,256,820 | 0.032175497454882 | 452903.5 |
| Get registro medicion | 100 | 25 | 21 | 45 | 39,226,904,032,819,100 | 0.0 | 16,829,916,860,210,700 | 7,668,763,634,862,330 | 0.2925512891716315 | 466598.5 |
| Get registro medicion | 500 | 26 | 21 | 67 | 4,984,871,512,887,770 | 0.0 | 832,570,144,034,635 | 4,401,064,161,237,610 | 14,472,410,706,852,000 | 541298.5 |
| Get registro medicion | 1000 | 7 | 1 | 40 | 34,223,849,871,105,900 | 0.0 | 16,634,506,620,533,600 | 20,269,090,273,128,200 | 28,915,450,961,474,400 | 124,774,055 |
| Get registro medicion | 2500 | 17 | 2 | 131 | 11,562,798,796,139,200 | 0.0 | 4,108,193,380,878,820 | 12,499,542,449,962,200 | 7,141,195,525,355,760 | 3,115,610,752 |
| Get registro medicion | 4952 | 3,048 | 1 | 62,186 | 8,303,236,642,779,070 | 0.04361873990306947 | 3,858,801,527,312,390 | 2,201,624,628,490,750 | 6,415,101,690,953,010 | 5,842,393,301,696,280 |

## Grafica Error Vs número de muestras

## Grafica Tiempo ejecución Vs número de muestras

# Actuadores

## Tablas

**Dar Actuadores**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Etiqueta** | **# Muestras** | **Media** | **Minimo** | **Maximo** | **Desv. Estandar** | **% Error** | **Rendimiento** | **Kb/sec** | **Sent KB/sec** | **Media de Bytes** |
| GetActuadores | 100 | 2 | 1 | 4 | 0,32 | 0,000% | 9,930,487 | 14,16 | 20,17 | 146,0 |
| GetActuadores | 500 | 2 | 1 | 7 | 0,42 | 0,000% | 45,829,514 | 65,34 | 93,09 | 146,0 |
| GetActuadores | 1000 | 2 | 1 | 19 | 1,64 | 0,000% | 82,576,383 | 117,74 | 167,73 | 146,0 |
| GetActuadores | 2500 | 77 | 1 | 603 | 99,28 | 0,000% | 104,558,762 | 149,08 | 212,38 | 146,0 |
| GetActuadores | 5000 | 752 | 3 | 2500 | 525,35 | 0,000% | 96,487,843 | 137,57 | 195,99 | 146,0 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Crear actuadores** | | | | | | | | | | |
| **Etiqueta** | **# Muestras** | **Media** | **Minimo** | **Maximo** | **Desv. Estandar** | **% Error** | **Rendimiento** | **Kb/sec** | **Sent KB/sec** | **Media de Bytes** |
| PostActuadores | 100 | 3 | 1 | 56 | 8,04 | 0,000% | 9,920,635 | 32,55 | 20,25 | 336,0 |
| PostActuadores | 500 | 3 | 1 | 62 | 5,76 | 0,000% | 41,981,528 | 137,75 | 85,68 | 336,0 |
| PostActuadores | 1000 | 8 | 1 | 73 | 11,53 | 0,000% | 74,183,976 | 243,42 | 151,41 | 336,0 |
| PostActuadores | 2500 | 67 | 1 | 428 | 68,29 | 0,000% | 128,008,193 | 420,03 | 261,27 | 336,0 |
| PostActuadores | 5000 | 260 | 1 | 1516 | 282,85 | 0,000% | 132,135,307 | 433,57 | 269,69 | 336,0 |

## Grafica Error Vs número de muestras

## Grafica Tiempo ejecución Vs número de muestras

# Área física

## Tablas

**Crear Área Física**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Etiqueta** | **# Muestras** | **Media** | **Minimo** | **Maximo** | **Desv. Estandar** | **% Error** | **Rendimiento** | **Kb/sec** | **Sent KB/sec** | **Media de Bytes** |
| GetAreafisica | 100 | 6 | 5 | 32 | 2,67 | 0,000% | 168,228 | 0,24 | 0,32 | 146,0 |
| GetAreafisica | 500 | 5 | 4 | 14 | 0,91 | 0,000% | 833,264 | 1,19 | 1,60 | 146,0 |
| GetAreafisica | 2500 | 3 | 2 | 124 | 4,49 | 0,000% | 4,122,080 | 5,88 | 7,93 | 146,0 |
| GetAreafisica | 5000 | 3 | 1 | 339 | 14,91 | 0,000% | 8,192,424 | 11,68 | 15,76 | 146,0 |
|  |  |  |  |  |  |  |  |  |  |  |
| **Crear Registros** | | | | | | | | | | |
| **Etiqueta** | **# Muestras** | **Media** | **Minimo** | **Maximo** | **Desv. Estandar** | **% Error** | **Rendimiento** | **Kb/sec** | **Sent KB/sec** | **Media de Bytes** |
| PostAreaFisica | 100 | 7 | 4 | 223 | 21,67 | 0,000% | 168,294 | 0,54 | 0,33 | 330,0 |
| PostAreaFisica | 500 | 4 | 3 | 148 | 7,68 | 0,000% | 833,917 | 2,69 | 1,61 | 330,0 |
| PostAreaFisica | 1000 | 3 | 2 | 63 | 2,18 | 0,000% | 1,663,866 | 5,36 | 3,22 | 330,0 |
| PostAreaFisica | 2500 | 2 | 2 | 117 | 3,98 | 0,000% | 4,138,456 | 13,34 | 8,00 | 330,0 |
| PostAreaFisica | 5000 | 2 | 1 | 67 | 1,87 | 0,000% | 8,211,124 | 26,46 | 15,88 | 330,0 |

## Grafica Error Vs número de muestras

## Grafica Tiempo ejecución Vs número de muestras

# Variables ambientales

## Tabla

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Obtener variables ambientales** | | | | | | | | | | |
| **Etiqueta** | **# Muestras** | **Media** | **Mín** | **Máx** | **Desv. Estándar** | **% Error** | **Rendimiento** | **Kb/sec** | **Sent KB/sec** | **Media de Bytes** |
| get todas las variables ambientales | 10 | 5 | 4 | 9 | 1,37 | 0,000% | 1,103,753 | 171,91 | 0,00 | 15949,0 |
| get todas las variables ambientales | 500 | 24 | 1 | 261 | 47,54 | 0,000% | 42,955,326 | 326,78 | 0,00 | 779,0 |
| get todas las variables ambientales | 1000 | 84 | 1 | 505 | 118,61 | 0,000% | 58,651,026 | 446,18 | 0,00 | 779,0 |

## Grafica Error Vs número de nuestras

## Grafica Tiempo ejecución Vs número de muestras

# Análisis

Al realizar los test de carga se puede apreciar que todos los componentes del experimento cumplen con el requerimiento de poder procesar más de 2500 solicitudes sin error alguno y re responder en menos de un segundo las solicitudes realizadas esto. Esto nos muestra como nuestro experimento cumple con los requerimientos de escalabilidad y rendimiento solicitados.