

Web 2.0

Frameworks and Tools

Firefox

- Web Developer toolbar
- Firebug
- YSlow / Page Speed
- User agent switcher

Firebug

- Firefox add on for developers
- Javascript console and tracing
- HTML inspector
- Network monitor

YSlow

- Firebug add on
- Grades client performance
- Suggest optimizations

JQuery

- Javascript client library
- Emphasizes Interaction between JS and HTML
- Selectors DSL

Eclipse

- Free, open source, multi language IDE
- Aptana
- Pydev
- Php
- Rad Rails

Distributed Computing

- Hadoop
- HBase
- HDFS
- Hive

Parallel Computing

- F#
- Scala
- Erlang
- PLINQ
- Map reduce

Functional Patterns

- Message passing - no shared state
- Functional composition
- Map - transforms one collection to another
- Filter - removed unnecessary items
- Fold - accumulate results

Map

```
public void Map() {  
    int[] numbers = { 5, 4, 1, 3, 9, 8, 6, 7, 2, 0 };  
    var numsInPlace = numbers.Select((num, index) =>  
new {Num = num, InPlace = (num == index)});  
}
```

Filter

```
public void Linq1 () {  
    int[] numbers = { 5, 4, 1, 3, 9, 8, 6, 7, 2, 0 };  
    var lowNums =  
        from n in numbers  
        where n < 5  
        select n;  
}
```

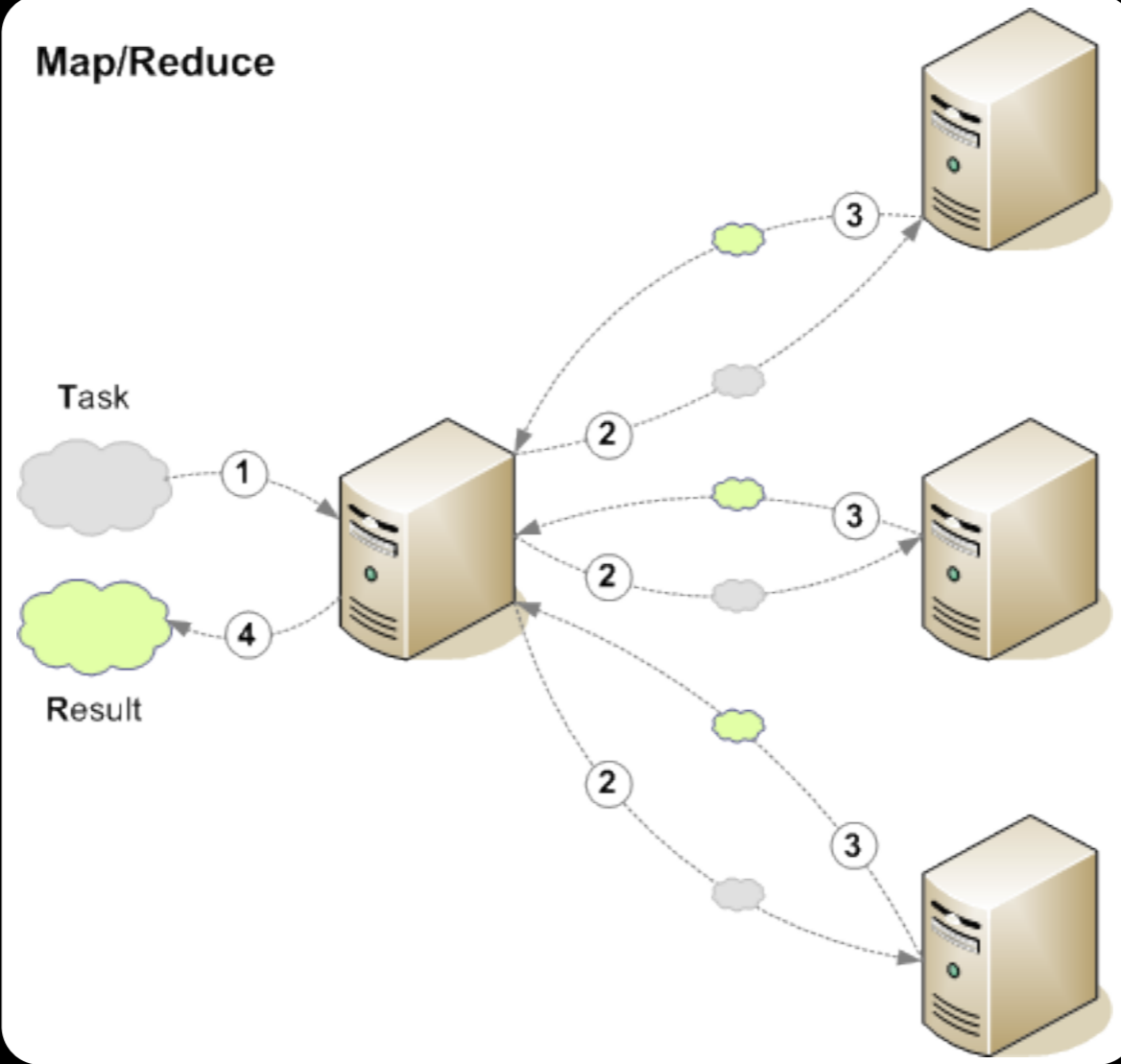
Fold

```
public void Linq74() {  
    int[] numbers = { 5, 4, 1, 3, 9, 8, 6, 7, 2, 0 };  
    int oddNumbers = numbers.Count(n => n % 2 == 1);  
}
```

Map Reduce

- Processing massive amounts of data in large clusters
- Map function - applies a filter function
- Reduce function - collects results from from two or more maps

Map/Reduce



```
map(function, list) {  
  foreach element in list {  
    v = function(element)  
    intermediateResult.add(v)  
  }  
}
```

map - compacts working set by removes all unnecessary data and devised the work to a number of machines processing the data

```
reduce(function, list, init) {  
  result = init  
  foreach value in list {  
    result = function(result, value)  
  }  
  outputResult.add(result)  
}
```

reduce - computes the result on a single working set
final result is performed by collating the results from all
processes running

Databases

- HBase
- CouchDB
- MySQL Storage Engines

Cache

- Memcached
- Velocity

Thank You