GOOD TEAM

P2P Bombermine Game

User Guide

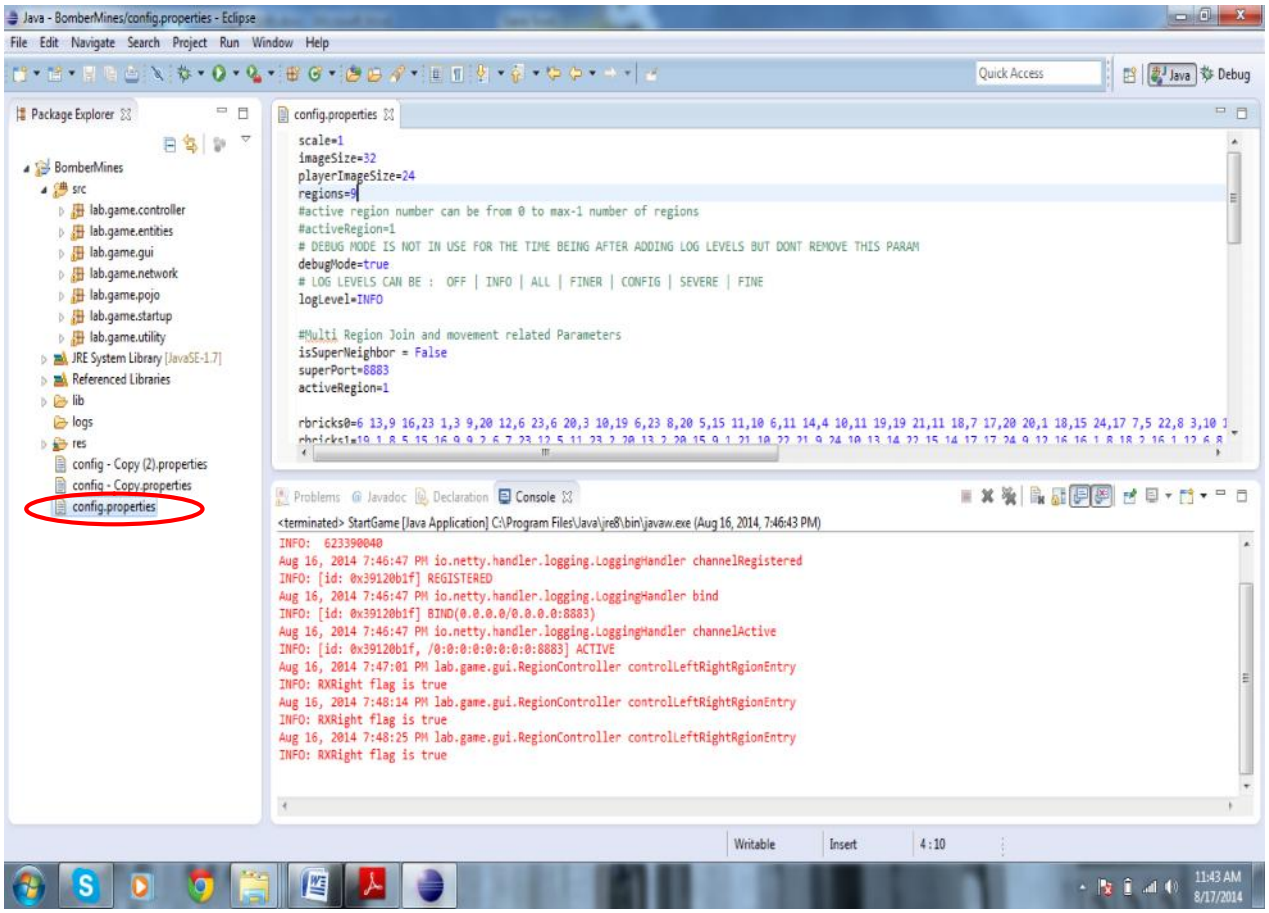
Massive Multiplayer Online Games (MMOGs) are growing due to advances in the generation of attractive content and the availability of high speed and capacity networks. One of the main characteristics of the MMOGs is that they enable users to become members of active communities with common interests, shared adventures and common objectives. Enabling thousands of users to communicate with each other creates large network demands, in terms of required bandwidth and low latency. We can experience all these aspects on Planet Lab where a virtual setup can be accessed on the nodes scattered around the globe with the real network experience.

To play the Boombermine game, follow:

Step 1: Install JAVA JDK, run eclipse and import project Bombermine.

Step 2: Configuration files (to change the game settings)

Configuration files configure the initial settings, where game only reads configuration files at startup of an instance.



Console Mode: Console mode is specified to run game in Planet Lab test bench without user interaction. Player is moved automatically according to the different types of movements specified in the configuration file. To run game in console mode, Super Peer address and port number must be specified. In console mode, default values are the parameters if not specified in configuration file then default values are assumed e.g. if imageSize parameter is not specified in configuration file then default value of 32 is assumed.

GUI Mode: In GUI mode user interacts and different actions of player are performed in an interactive way e.g. player movement, bomb placement, connecting to super peer etc

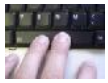
Parameter	*Integer value*	*Other value*	*Description*
Image Size	Yes	No	Each image as of block or brick is of 32(default) pixels in the region.
PlayerImage Size	Yes	No	Player image size is 24(default) pixels.
regions	Yes	No	It defines the number of regions of the game space, in which the player will play. The regions should be multiple of power of number e.g 4, 9, 16
Log Level	---	----	SEVERE (highest), WARNING, INFO, CONFIG, FINE,FINER and FINEST
IsSuperNeighbor	No	Boolean type	To initiate the process, thee value has to be “true” while joining, as this player enters the game will be the super peer of that particular region, other players can keep this value “false”, as they will be joining this peer in the region.
Port No	Yes	No	It is the unique port number a player gets with the IP. With a single IP it is possible to get multiple players by having different port numbers.
Active Region	Yes	No	It defines the region in which the player will be starting the game, the number vary from 0 till the number regions (if n is the number of regions then 0 to n-1).
R bricks	Yes	No	It has the row and column position, which defines where exactly the **brick** is placed in the region e.g. 5 3,6 8 means first brick is placed at sixth row and fourth column whereas second brick is placed at seventh row and ninth column
R blocks	Yes	No	It has the row and column position, which defines where exactly the **block** is placed in the region.

Console mode parameters

Parameter	*Default Value*	*Description*
consoleMode	True	True describes if we are in console mode or not. False mode in GUI.
superPeerAddress	--	**MUST**, the address of the super peer is to be given here initially.
superPeerPortNo	--	**MUST**, The port number of the super peer is to be initially given here.
gameScreenWidth	600	The number of pixels, are defined for the width of the screen
gameScreenHeight	600	The number of pixels, are defined for the height of the screen
peersToConnect	1	The number of peers to connect to super peer
waypoint • **right**	Default	The Bot moves horizontally in the same region.

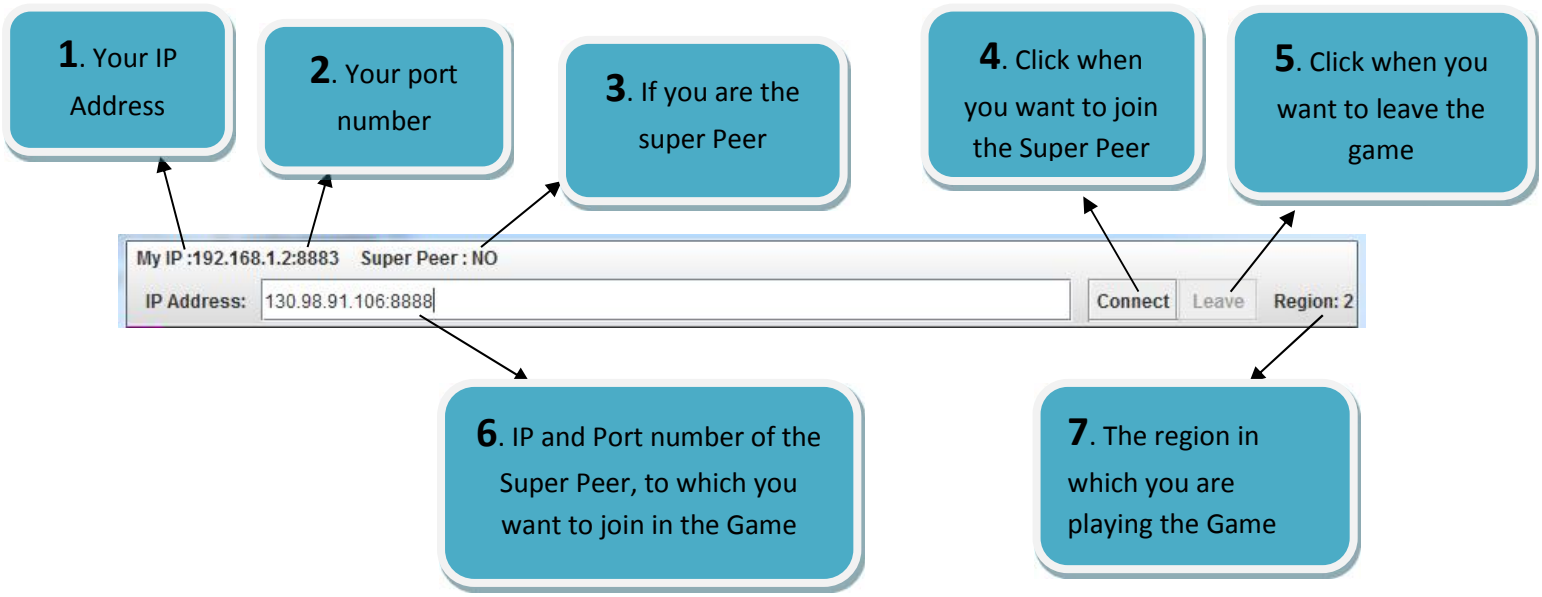
• **down** • **point** • **random Point** • **vertical Region** • **horizontal Region**		The Bot moves vertically in the same region. The Bot moves to a given point in the same region. The Bot moves randomly by choosing the next move (left,right,top,bottom) randomly The Bot moves vertically from one region to other region and then continuously move in the newly entered region. If first region is top most region then Bot moves from up region to down region otherwise it moves from down region to up region The Bot moves horizontally from one region to other region and then continuously move in the newly entered region. If first region is left most region then Bot moves from left region to the right region otherwise it moves from right region to the left region
srcDesPoints	--	The points from where the boots should start and end are defined here.

Step 3: After configuring the file save the file and press on Run Button while selecting the StartGame.java class 

- The instance will be started and you will be in the game. 
- To play the game the keys for moving will be. 
  - For moving up ↑
  - For moving down ↓
  - For moving left ←
  - For moving right →
- To place the bomb use SPACE button 

Step 4: To join any region in the game you should know the IP address and port of the Super Peer. After getting the IP address and port

1. Shows your IP address, which you can share with other players to join the game only if you're a Super Peer.
2. Your port number, which is also to be given to other players if they want to join the game, if you're a Super Peer. And with same IP we can have many players by changing the port. You can change the port in Config file by changing portNo.
3. Super Peer will be Yes only when you are Super Peer of the concerned region.
   Initially if you want to be the Super Peer, then in Config file turn "isSuperNeighbor" as true.
   You will be the super peer in that concern region.



4. Connect button is to join the super peer in a particular region, by providing the IP and Port of the concerned Super peer.
5. Leave button is for leaving the game gracefully.
6. IP and Port No of Super peer is to be entered (if the node is not super peer) to join the game in a format IPAddress:PortNo.
7. Region label shows the region in which you are playing the game.

You can rejoin the game when you are killed, by just putting the IP and Port of the Super Peer and press the connect button. You will be back in the game.

Note: When player joins the game latest game state (e.g. Bricks, walls) is submitted to player via Super Peer.

For **Bootstrapping** the very first Peer's "isSuperNeighbor" field in configuration file should be set to **true** initially. The others can connect to this peer, as it would be a super peer. When the other peers change the region they would be the Super Peer of that region (if they are the first peer in the region) and they are part of the same game space.

Limitations: When peer joins the game, other peers are only visible when they are moved once.

In standalone mode, the game can be played with as much number of regions (power of integer number). However over the network we tested the game for four regions only.