BF3 PC Server Administration

This is the server admin manual for BF3 PC Server ~~R4~~R9.

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Game server operation

When the game server first starts up, it reads a set of configuration files from disk. Some of these are managed by the RSP, and some by the server administrator.

The game server will then cycle through a series of maps. Game clients can connect to the server and play on the maps.

Control of the game server is done through a “Remote Administration” interface. This is a TCP port (kind of like a terminal interface). There are both Python scripts and GUI tools which control the game server through this mechanism.

Players can indirectly communicate with the GUI tools by sending special chat commands, which the GUI tools react upon.

The game server writes a set of log files to disk while it is running; these can be inspected by the server admin.

Files which may be accessible to the server admin

EA decides which files the RSP may make available to the admin. It is up to each RSP how to facilitate this, and the extent to which access is given. The list below contains all the files which the RSP is allowed to give the server admin full access to:

Admin/*.txt
pb/svss/*
pb/svlogs/*
pb/*.cfg
pb/pbbans.dat
pb/pbucon.use
pb/sv_viol.log
pb/sv_cheat.log

In addition, the server admin may have limited access to a few lines in ServerOptions.cfg and the values of some commandline arguments.

Remote administration interface

The remote administration interface is a two-way channel for sending and receiving commands from the game server. Before the remote administration can be used, a remote admin password must be set, either via Admin/Startup.txt, ServerOptions.cfg or the commandline.

Do notice that the remote admin interface is normally case sensitive.

Commands

There's a Python script, called "CommandConsole.py", that can be used to connect to the remote administration interface. Once connected, there is an assortment of commands available that can be sent. See "BF3 PC Remote Administration Protocol.pdf" for the full list.

Events

The game server can also send events when specific things happen in-game. For instance, when a player joins or leaves the server, when a round ends, or when anyone says anything through the chat. The Python script called "EventConsole.py" can be used to listen to these events.

GUI tools

There are several GUI tools constructed, which make it easier to control the game server. We'd recommend that you use them rather than relying on CommandConsole.py / EventConsole.py for everyday use.

Startup script

The game server will process the file named Admin/Startup.txt during bootup. Each line in that file will be executed as a remote administration command.

Password

Anyone who knows the IP address and port of the remote administration interface of a server can connect to it and retrieve some basic information, including a player list. Most commands require the user to specify a password. This password can be changed by issuing the **admin.password** command.

Usually the **admin.password** command is put into the server's static configuration.

When do commands take effect?

Some commands take effect immediately (example: kicking a player).

Some commands take effect only after a round change.

Some commands must be put into Admin/Startup.txt to take effect at all.

Accounts, soldier names, and GUIDs

Every BF3 PC player has exactly one EA account. The player has exactly one soldier name~~can then have one or more soldier names~~.

The PunkBuster GUID is tied to the EA account. So is the "EA GUID".

The PB GUID is used with all PB-services, while the EA GUID is used with any non-PB-related functions in the game server.

PunkBuster GUIDs are 32-digit hexstrings.

EA GUIDs are the prefix “EA_” followed by a 32-digit hexstring.

Player slots

How many players does a server support?

This is determined by two factors:

- The RSP has a max-cap which they can set per server
- The admin also has a max cap that can be set (**vars.maxPlayers**)

The current max number of players is the minimum of the both.

Ban system

The game server has an internal ban system. This system is independent from PunkBuster’s banlist. At startup, ban entries are read from the file named banlist.txt. During runtime, the **banList.*** commands can be used to manipulate the banlist.

Players can be banned either on their soldier name, or on their EA GUID. Banning someone on their soldier name is not particularly effective – if it’s a determined griefer then he/she will just create a new soldier and return . Banning someone on their EA GUID is much more effective.

To find out someone’s EA GUID, perform admin.serverInfo while that person is playing on your server. Or – inspect the AdminLog.

People can be banned either for a few seconds, until the end of the current round, or permanently.

The banlist can contain up to 10.000 entries.

banlist.txt format

Each entry in the banlist occupies 5 lines.

The first line specifies what the ban is on:

guid – ban on EA GUID
name – ban on soldier name
ip – ban on game client IP address

The second line specifies the GUID/name/IP that the ban applies to

The third line specifies the duration of the ban:

perm – permanent
round – until the end of the current round
seconds – until the given time is reached

The fourth line contains the timestamp for a “seconds”-type ban; otherwise it is unused.

The fifth line contains the reason for being banned. Max length 80 characters.

Map handling

Overview

BF3 PC game servers are designed to rotate through a sequence of maps. The exact configuration is specified in the server’s internal map list. Different maps in the map list can use different game modes. (Note however, that some game modes will not work properly if there are more players on the server than the game mode is designed for.)

Upon startup, the Admin/MapList.txt file is read. During runtime, the **mapList.*** commands can be used to edit the set of maps.

When the same map is played for several rounds, all 2-team gamemodes stipulate that the teams will switch sides after a run. This way, a 2-round session of Rush will have players play both attackers and defenders.

Controlling map switching

mapList.* can be used to edit the maplist while the server is running.

mapList.setNextMap sets which will be the next map by map and gamemode name.

mapList.setNextMapIndex sets which will be the next map.

mapList.getMapIndices returns information on which is the current and next map in the list.

mapList.runNextRound switches to the next round, without finishing the current.

mapList.restartRound makes all players reload the current map, and restarts the current round.

mapList.endRound declares a specific team as the winning team, and then moves directly to the end-of-round screen.

Admin/MapList.txt format

Each line in the file has three entries: the map name, the game mode, and the number of rounds to be played on the map until proceeding to the next map in the list.

Example MapList.txt:

```
MP_007 RushLarge0 2
MP_018 ConquestSmall0 2
MP_Subway RushLarge0 4
```

Idle timeout

If a player doesn't give any input within a specific period of time, he/she will be kicked due to idling. You can change the time interval / disable the idle timeout through **vars.idleTimeout**. In addition, **vars.idleBanRounds** can be used to apply a ban for a number of rounds for someone that gets kicked due to idle timeout.

Note that the idle timeout is currently only controllable on unranked servers.

Pre-round

Currently, pre-round is active on all game servers. This is a pre-match state where players cannot move. You can change the number of players requires to go between pre-round and in-match using **vars.roundStartPlayerCount** and **vars.roundRestartPlayerCount**.~~; however, see the section "Server settings and Battlelog" to see what implications it has for players using Quickmatch.~~

Ranked -and unranked servers

When a server starts up, it will default to being ranked. You can use **vars.ranked**~~**Currently, unranked does not work correctly. All game servers will have to run ranked.**~~

~~**Our goal is to make unranked game servers allow full customization of the set of available weapons, regardless of the individual player progression.**~~

false to make it unranked during startup.~~is used to set a server as ranked or not. This command can always be set but after server start it can only be used to set a server as unranked.~~ Once the server has been switched to unranked, it cannot be switched back to ranked. The **vars.ranked** command is best placed at the top of Admin/Startup.txt.

Ranked servers will automatically run with PunkBuster enabled.

Below is a list of all settings and when they can be changed in relation to server being ranked/ unranked.
"Always Allowed": The value can be changed at all times for both Ranked and Unranked servers.
"ReadOnly After Startup": ~~Can only be set in startup.txt~~Can only be changed during server startup.
"ReadOnly On Ranked": Can only be set/changed on Unranked servers.
"Disallowed On Ranked": Can only be invoked on Unranked servers.

Setting	When this can be changed
login.plainText	Always Allowed
login.hashed	Always Allowed
logout	Always Allowed
quit	Always Allowed
admin.help	Always Allowed
admin.shutDown	Always Allowed
admin.password	Always Allowed
admin.eventsEnabled	Always Allowed
vars.serverName	Always Allowed
vars.gamePassword	Disallowed on Ranked, ReadOnly After Startup
vars.ranked	ReadOnly After Startup ~~Always Allowed~~ *1
version	Always Allowed
serverInfo	Always Allowed
listPlayers	Always Allowed

currentLevel	Always Allowed
admin.listPlayers	Always Allowed
admin.movePlayer	Always Allowed
admin.kickPlayer	Always Allowed
admin.say	Always Allowed
admin.killPlayer	~~Disallowed On Ranked~~Always Allowed
banList.add	Always Allowed
banList.remove	Always Allowed
banList.clear	Always Allowed
banList.list	Always Allowed
banList.load	Always Allowed
banList.save	Always Allowed
gameAdmin.add	Always Allowed
gameAdmin.remove	Always Allowed
gameAdmin.clear	Always Allowed
gameAdmin.list	Always Allowed
gameAdmin.load	Always Allowed
gameAdmin.save	Always Allowed
mapList.add	Always Allowed
mapList.remove	Always Allowed
mapList.clear	Always Allowed
mapList.list	Always Allowed
mapList.load	Always Allowed
mapList.save	Always Allowed
mapList.setNextMap	Always Allowed
mapList.setNextMapIndex	Always Allowed
mapList.getMapIndices	Always Allowed
mapList.getRounds	Always Allowed
mapList.runNextRound	Always Allowed
mapList.restartRound	Always Allowed
mapList.endRound	Always Allowed
mapList.availableMaps	Always Allowed
reservedSlotsList.add	Always Allowed
reservedSlotsList.remove	Always Allowed
reservedSlotsList.clear	Always Allowed
reservedSlotsList.list	Always Allowed
reservedSlotsList.load	Always Allowed
reservedSlotsList.save	Always Allowed
unlockList.add	Disallowed On Ranked
unlockList.remove	Disallowed On Ranked
unlockList.clear	Disallowed On Ranked
unlockList.list	Disallowed On Ranked
unlockList.save	Disallowed On Ranked
vars.teamKillCountForKick	~~ReadOnly On Ranked~~Always Allowed
vars.teamKillValueForKick	Always Allowed~~ReadOnly On Ranked~~
vars.teamKillValueIncrease	Always Allowed~~ReadOnly On Ranked~~
vars.teamKillValueDecreasePerSecond	Always Allowed~~ReadOnly On Ranked~~
vars.teamKillKickForBan	Always Allowed~~ReadOnly On Ranked~~
vars.idleTimeout	ReadOnly On Ranked
vars.idleBanRounds	ReadOnly On Ranked
vars.autoBalance	Always Allowed~~ReadOnly On Ranked~~

vars.roundStartPlayerCount	Always Allowed[*2]
vars.roundRestartPlayerCount	Always Allowed[*3]
vars.serverMessage	Always Allowed
vars.serverDescription	Always Allowed
vars.killRotation	Always Allowed
vars.killCam	Always Allowed
vars.roundsPerMap	Always Allowed
vars.bannerUrl	Always Allowed
vars.vehicleSpawnAllowed	Always Allowed
vars.vehicleSpawnDelay	~~ReadOnly On Ranked~~Always Allowed
vars.soldierHealth	Always Allowed[*4]
vars.playerRespawnTime	~~ReadOnly On Ranked~~Always Allowed
vars.3pCam	Always Allowed
vars.regenerateHealth	Always Allowed
vars.friendlyFire	Always Allowed
~~**vars.clientSideDamageArbitration**~~	~~ReadOnly On Ranked~~
vars.playerManDownTime	ReadOnly On Ranked
vars.bulletDamage	ReadOnly On Ranked
vars.minimap	Always Allowed
vars.hud	Always Allowed
vars.miniMapSpotting	ReadOnly On Ranked
vars.3dSpotting	Always Allowed
vars.nameTag	Always Allowed
vars.gameModeCounter	Always Allowed
vars.onlySquadLeaderSpawn	Always Allowed
vars.maxPlayers	~~ReadOnly On Ranked~~Always Allowed
vars.allUnlocksUnlocked	ReadOnly On Ranked
punkBuster.activate	Always Allowed
punkBuster.isActive	Always Allowed
punkBuster.pb_sv_command	Always Allowed

[*1] Can only go from true to false

[*2] Clamped to 4+ on ranked

[*3] Clamped to ~~42~~+ on ranked

[*4] Clamped to 60-100 on ranked

Reconfiguring the game modes

This is done through a large number of settings.

Changing these settings will change how your server gets listed in the browser; see [battlelog info] for more information.

The following settings are available:

vars.serverName controls the name of the server, as seen in the server browser.

vars.gamePassword - if set, players must enter this password when connecting to the server.

vars.friendlyFire – when set, people can inflict damage on others in the same team.

vars.killCam – when set, a killed player gets to see a close-up of his/hers killer for a few seconds.

vars.miniMap – when set, a minimap is available in the bottom-left corner of the screen during play.

vars.hud – when set, the hud is present.

vars.crossHair – when set, guns have crosshairs in the center of the screen.

vars.3dSpotting – when set, spotted targets are marked with icons in the 3D world.

vars.miniMapSpotting - when set, spotted targets are marked with icons on the minimap.

vars.3pCam - when set, 3rd person vehicle cameras are enabled.

vars.nameTag – when set, nametags are rendered over players' heads in the 3D world.

vars.regenerateHealth – when set, health regeneration is enabled.

vars.vehicleSpawnAllowed – when set, vehicles will spawn in-game.

vars.vehicleSpawnDelay – controls the delay between vehicle spawn; specified in percent (100% = normal).

vars.soldierHealth – sets maximum soldier health, specified in percent (0-100%; 100% = normal).

vars.playerRespawnTime – controls player respawn delay; specified in percent (100% = normal).

vars.playerManDownTime - controls player man-down time; specified in percent (100% = normal).

vars.bulletDamage – controls bullet damage; specified in percent (0-100%; 100% = normal).

vars.onlySquadLeaderSpawn – when set, players can only spawn on the squad leader.

vars.allUnlocksUnlocked – when set, all players have weapons & gadgets as if they were max rank.

vars.roundStartPlayerCount – when the server is in pre-round, it waits for this many players to be present until it proceeds to start the real round.

vars.roundRestartPlayerCount – when a round is going, if the number of players drops under this number, the round will be aborted and the server moves back to pre-round.

vars.gameModeCounter – controls the number of tickets required to end round (100% = normal).

Server settings and Battlelog

Battlelog has a set of filters that are designed to help players find a couple of standard-configured game servers.

Quickmatch

First off, there is the Quickmatch operation.

Quickmatch will only go against ranked servers. Also, the ping site setting is taken into consideration; players will have a slight preference to game servers which belong to the player's closest ping site location.

If the user has not selected any filters in the server browser filter, then a couple of default search criteria will be applied:

- Preset: Normal (see below)
- Game Mode: Rush, Conquest, Team Deathmatch
- Game: Base game only (not Back to Karkand)

If you select any items in the following categories in the server browser filter, then they replace the corresponding default criteria:

- Preset
- Game Mode
- Maps
- Game (base / Back to Karkand)

Other categories have no effect on quickmatch.

Server browser

~~The requirements for a server to be included in Quickmatch are the strictest of all. The reason for this is because Quickmatch is intended to present a single game experience to its users. If those users wish to try something different, it's time for them to try out the server browser.~~

Then there is the server browser with its filters. One of the filter sections is the preset selection. By default, no filtering is done on presets (so the server browser show all servers regardless of any game mode-affecting settings).

There are four different presets in Battlelog: Normal, Hardcore, Infantry Only and Custom.

If your server has settings set to match either Normal, Hardcore or Infantry only, then it will show up in matching searches. If your settings are different, then it will match a search for Custom servers.

Setting	~~Value for Quickmatch~~	Value for Normal	Value for Hardcore	Value for Infantry Only
vars.autoBalance	~~true~~	true	true	true
~~**vars.roundStartPlayerCount**~~	~~8~~			
~~**vars.roundRestartPlayerCount**~~	~~4~~			
vars.friendlyFire	~~false~~	false	true	false
vars.regenerateHealth	~~true~~	true	false	false
vars.killCam	~~true~~	true	false	~~True~~true

vars.miniMap	~~true~~	true	true	~~True~~true
vars.hud	~~true~~	true	false	~~True~~true
~~**vars.crossHair**~~	~~true~~			
vars.3dSpotting	~~true~~	true	false	true
vars.miniMapSpotting	~~true~~	true	true	true
vars.nameTag	~~true~~	true	false	true
vars.3pCam	~~true~~	true	false	false
vars.regenerateHealth	~~true~~	true	false	true
vars.vehicleSpawnAllowed	~~true~~	true	true	false
~~**vars.vehicleSpawnDelay**~~	~~100~~			
vars.soldierHealth	~~100~~	100	60	100
vars.playerRespawnTime	~~100~~	100	100	100
vars.playerManDownTime	~~100~~	100	100	100
vars.bulletDamage	~~100~~	100	100	100
vars.onlySquadLeaderSpawn	~~false~~	false	true	false

Server region

A server is listed under one of the seven continents in the server browser. The default continent is Antarctica.

This setting is controlled by your RSP. If you are in Antarctica but want to get moved to the proper continent, contact your RSP.

Server pingsite

There are a half-dozen pingsite locations around the world. When a player initiates a Quickmatch operation, the player's PC will measure latency to all the pingsite locations.

Servers specify explicitly which of the pingsites is closest to them. The setting is controlled by the RSP.

Quickmatch combines the player's pingsite latency information with the server's pingsite setting when deciding whether or not to route a player to that specific server.