

The basic basics

All you need to start with is one skill at level 1, and about 1-2 million in cash that you can spend.(you probably will not spend all of it but its nice to have a bit of a reserve just in case)

currently, apart from the basic processor you will spend;

45 k for extractors (CPU/Power needed 200-800)
75 k for processors (CPU/Power needed 200-800)
250k for storage (CPU/Power needed 500-700)
250k Advanced Processors (CPU/Power needed 500-700)
525k High Tec Processors (CPU/Power needed 1,100-40000)
900K Spaceport

plus the cost of the Basic Command Center (currently 100 for all levels)

By the way the stats on that are fairly straightforward

Basic 500m3 6000/1675(stats are Power/CPU) and takes up a total of 50m3 space in your cargo bay.

You also need the following skill at level 1

Remote Sensing Rank 1 I/m (basically has no prerequisite skill, req. skill of Sci. 3) The ability to gather and analyze remote sensing data from satellites in orbit around a planet and to produce proper calibrated surveys.

Level 1: allows scans within 1 light year (not AU or jumps)

Level 2: allows scans within 3 ""

Level 3: allows scans within 5 ""

Level 4: allows scans within 7 ""

Level 5: allows scans within 9 ""

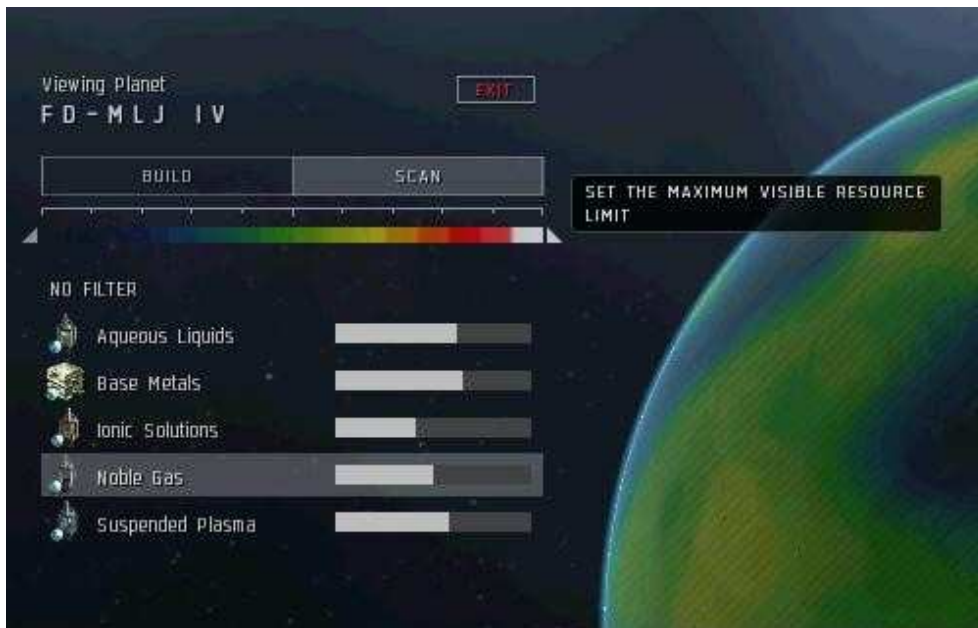
(note, some functions can be done in a station if your in range, some require you to be undocked)

After you get the skill trained to level 1, all you need is a Basic Command center of the exact same type as the planet you plan to mine.(I'm Using Storm Basic Command center to go after Oxygen in this example)

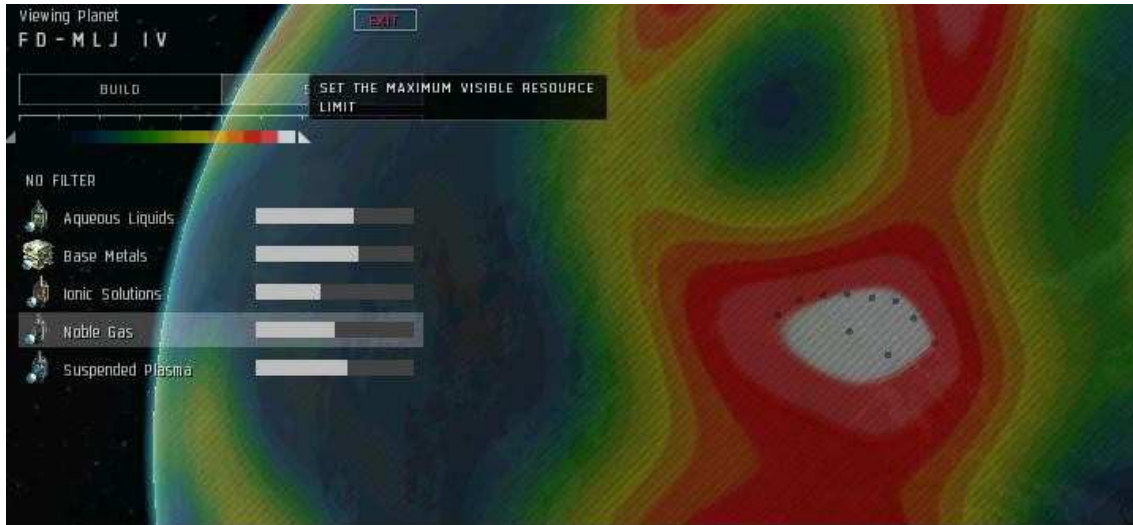
Then head out, select a planet of that type that's in the system your in. Then Select the Circle with the Up Arrow that is the planet view (note that I am at a star gate in this system) to view the planet in "planet mode"



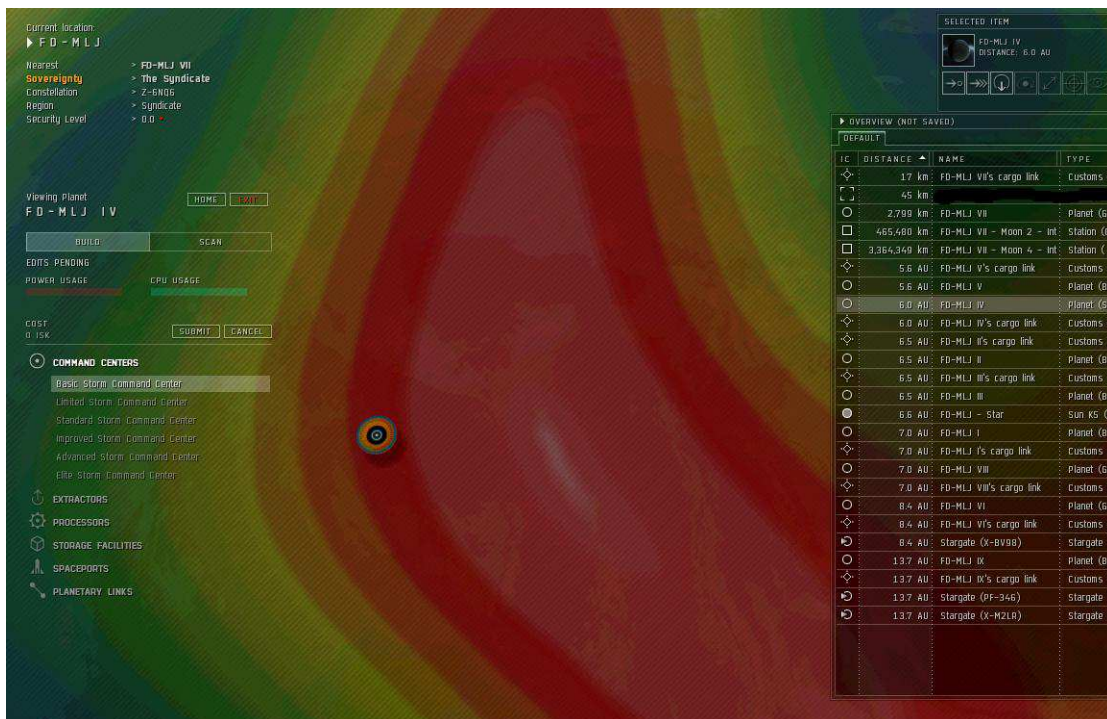
In Planet View, Select Scan. Look over the items that are available on that planet, select 1 (in this case noble gases) to trigger the scan to find the hot spots if your interested in that world.



Note that you probably will need to use the adjustment under the scan button to better locate the "hotspots" for that resource, just slide the scale to the right or left until you get the hang of it.



Now, since you are using the Basic Command Center, place your command center on the planet, fairly close to where you plan to do your extracting. Then click Submit.



You then want to select 1 Basic processor and place it fairly close to your Command Center, (I usually place it at a right angle to where the resource is that I plan to extract so its out of the way for now) Left click on the Processor, select create link, then select

the Command center to create a link to the processor

Then a Resource Extractor to match the resource your extracting and place it on the hottest part of the hotspot. you will want to do a dummy scan to get an idea as to how “hot” the spot is so you know how many extractors you need per processor,



(Note:) the above picture shows me trying to "Pinstack" the old fashioned way. obviously you cant do this anymore, (yellow dots is the route between pins)

And always, when your laying out your network, always create links between all of the units. that you intend to link together (in this case the Command Center and the Processor)

Hit submit when you have a grouping set up and ready to go. (note: the system WILL NOT allow you to put down anything that will exceed the capacity of your Command center to power of provide CPU support)



(Note, on the left is what I refer to as an ICS layout, the yellow pin is not yet accepted because it would overload my network)

Now select one extractor you have set up and scan for resources. when you get the result back stop for a second.

Look over the scan results, from top to bottom they are organized by the duration of the extraction, (numbers below are based on a single extractor sample, your numbers WILL vary from extractor to extractor and world to world, and may be higher or (a lot) lower

(the numbers from Left to right:)

Total output| output per cycle.....Cycle time , time to depletion



Scan from a Empire world, a 0-0 security would have a better resource scan (roughly 2-3 times higher, to give one example

- A) 10278 | 1713.....5 Min , 30 Min total duration(Maximum pull, Minimum total yield)
- B) 56500 | 2825..... 15 Min , 5 hour
- C) 92874 | 2019..... 30 Min ,23 hour
- D) 107520 | 1120..... 1 Hour . 96 Hour (the minimum pull but maximum yield,

This is where things get complicated.

The Basic processor can take in exactly 3000 units (1500 units per 15 min Extraction cycle)currently, and can hold 3000 units total before the next processor cycle before it stops accepting new raw material.

If your going to feed the processors as you draw materials the processors can take in mats safely at the following levels

- A) 500
- B) 1500
- C) 3000
- D) 6000

Actually, just as one example, 3130 for C) is the theoretical max but it takes perfect

timing to get that to work due to the 23 hour extractor cycle, the others are also a bit higher than what I listed, but again you would need to perfectly hit the timing on rescans and submit

However, especially if you run the two highest net yield processes you will end up building extractors that sit idle if you build extractors that only take in material as you extract it.

The way I unusually run my planets is to base it on a 24 hour processing cycle, so I need to basically somehow arrange for a total of 144000 units of raw material to land in my storage network over the course of the day per processor that I want to run (note that on virtually all worlds that's going to be hard to arrange, however any overflow can be stored for those days when you just cant log in that day, or if your running multiple cycles for those days when you have to miss one or two)

So basically you need to build (or have) storage

Your command center can hold 500m3 of material, if your going to set up your planet to pull on the 23 hour or 4 day cycle you probably don't have a problem, and can safely dump the materials into there for temporary holding.(especially with the Basic extractor)

However if you plan to run the shorter cycles and let the processor catch up over the rest of the day, you *may* need a bit more storage than that.

With just the Basic CC, that means you need to build a storage silo, or you can use the launch pad with more advanced Command centers.

From there is really simple math, you know roughly how many Extractors you can feed into one processor, and can work out how many processors you need as you lay out the extractors

I recommend that you always set things up so that Extractors feed to some kind of storage and not directly to a processor for reasons I will explain later, unless your willing to try to micromanage routing.

That said, Storage facilities, Spaceports, and even the Command Center can be used as storage for mats. for now just use the Command centers storage as a buffer, you should be ok for now unless you insist on running things at the 30 min clip with just one processor

By the way a "pin" is any Extractor, Storage, Processor, Spaceport, or the Command Center that you "pin" to a planet. I'm pointing that out now because him about to start using that term a lot.

Go ahead and set up roughly as many Extractors and processors as you think will feed the network of processors you are setting up, you can check with each one but don't hit submit until your fairly sure you have all the Extractors and processors you need set up and linked.

Once you have set up a network of extractors, you can now go through and scan at all of them for resources, select based on what you expect to do, (Do not set routes yet!) and once you have scanned all the Extractors Hit Submit, that will turn on all of the extractors at once.

Now you have to route all of the output of the extractors to a storage,

This is where things can get a bit frustrating.

You see each individual rout between pins has a limited amount of "Bandwidth" available to it. you can basically move 250m3 per interval, anything more and you need to upgrade the route. (basically think of it as adding extra lanes on your highway, or upgrading a single track to double track on a rail line) however this eats into your CPU budget, generally if you notice that your rout is needing an upgrade then you may want to back up and lay down a storage silo and rout everything into it that is causing the rout to overflow (to save on bandwidth costs) then pass a link to a processor and then on to whatever storage you want the end product to be in.

From any given extractor, you can run a route THROUGH about 5 different "PINs" to a final destination (you can not go through more than 5 pins, the rout will not take), its where the rout ends that determines if a connection is legal or not, so long as there is a legal path from source to your intended destination . For example routing from an Extractor through other extractors, processors and other storage facilities to a storage facility is perfectly legal. in the example below I'm going from an Extractor (*E) to a Storage Facility (S*)

(*E)==>(S)==>(E)==>(P)==>(S*)

However you DO NOT CLICK on any of the intermediate pins, provided a legal path from (*E) to (S*) exists the system will figure that part out for you. you only click on where you want to get an item from, select it, click [create rout], then click on the destination (for now send it to the CC)

Its always a Good idea to make sure at each receiving point that you have all the extractors sending to them at this point, (if your routing directly from the extractors to the CC, you should have 1 incoming route for each extractor you have running.)

now go down to the Processors you have set up. Select the "output" you want to come out of it (in this case Oxygen) and rout that to the CC, then repeat for any extra processors you may have set up.

hit submit.

now you just have to wait out what's left of the 15 min extraction cycle.

once all the Raw material shows up in your CC its fairly straightforward, go into the storage of your CC, Select the Raw material, Select create route, select the processor you want it to go to, click on it, (if you have more than one processor don't hit submit yet, repeat for every processor you have) once you have all processors ready to accept the correct raw materials, hit submit.

However if the raw materials have not yet shown up in your processor (because you chose a longer cycle) you can still create a rout, simply go to the Rout button and select one of the incoming raw materials,

Routing from Extractor through Storage Directly to a processor is legal, HOWEVER you do not get any "overflow" to land in the storage, it is lost. The same holds true for routing Processor to processor when your trying to make a given processor a source for the mats needed by a higher level process, or when routing from an Extractor to a processor directly

To be honest if you are going from an Extractor or Processor through a CC, Spaceport or Storage silo to a Processor. your probably better off just ending the rout there then creating a new rout from there to the processor to reduce loss.

-----Skills-----

Remote Sensing Rank 1 I/m (basically has no prerequisite skill, req. skill of Sci. 3) The ability to gather and analyze remote sensing data from satellites in orbit around a planet and to produce proper calibrated surveys.

Level 1: allows scans within 1 ly

Level 2: allows scans within 3 ly

Level 3: allows scans within 5 ly

Level 4: allows scans within 7 ly

Level 5: allows scans within 9 ly

Command center upgrades Rank 4 skill C/i (No prerequisite skill) Each rank in this skill improves the quality of command facility available to you, in turn allowing for a greater number of connected facilities on that planet. Cannot be trained on Trial Accounts.

Interplanetary Consolidation Rank 4 skill C/i (No prerequisite skill) For each rank in this skill, you may install a command center on one additional planet, to a maximum of 6 planets. You can have only one command center per planet. Cannot be trained on Trial Accounts.

Currently the following two skills don't seem to do anything at all on Sisi

Planetology Rank 3 I/m (preres of Sci and Remote sensing III)The understanding of planet evolution and the fundamentals of resource extraction.

Advanced Planetology Rank 5 I/m (preres of Planetology IV and Sci IV_
Advanced understanding of planet evolution and the fundamentals of resource extraction.

The Command Centers

Each world type needs a Command center type dedicated to that world.

Regardless of type, and apart from the Basic command center, (which can only do space launches) you have to pay, per m3 of volume(not reducible by skill or standings)

2 ISK Export fee

1 ISK Import Fee

3 ISK Space launch fee

so sending up 500 m3 of material will cost you 1000 ISK,(15000 if you only have a Basic spaceport) which is why you want to process things on the planet first to reduce the number of items!

to transfer materials, the Basic Command Center can only Launch materials (for 15 ISK)

The Command Centers

Each world type needs a Command center type dedicated to that world,

CC types shipping volume, Grid/CPU Skill requirements(all CCs have a “500m3 storage bay and currently cost 100 each)

Basic 50m3 6,000 /1675 No skill

Limited 100m3 9,000/7057 I

Standard 200m3 12,000/12,136 II

Improved 400m3 15,000/17,215 III

Advanced 800m3 16000/21,315 IV

Elite 1600m3 19,000/25,415 V

The Planets/Products

Right now they basically indicated that what we see on planets currently might change, and that many items/values in the production chain are actually placeholders, so I will update this when its nailed down with more accurate information.

However that said what we do know for sure is that currently all planets seem to have 5

of the basic resources, and currently any "Giant" world currently is a bit of a pain due to the cost of links. Basically the reality is that the larger the world, the longer the distance between Pins, the more those links cost, the fewer the pins you can put down.

also the plan is that the yield of a planet gets better (Somewhat Drastically) as you go into 0-0, empire and FW space seem to be capped out at roughly 30-35% of max for example.

Currently the game has the following planet types that are used in PI (shattered planets currently are not accessible) of those worlds, three have resources that are unique to them

Gas, Temperate, And Lava worlds. between them you have access to 13 of the resources, and you only need 2 more worlds to get all possible base items into your supply chains.

The "Big Three" worlds that have Unique to them compounds currently are:

GAS	TEMPERATE	LAVA
Base metals	Carbon Compounds	Heavy Metals
Aqueous Liquids	*Autotrophs*	Non-CS Crystals
Ionic Solutions	Aqueous Liquids	*Felsic Magma*
Noble Gas	Micro Organisms	Suspended Plasma
Reactive Gas	Complex Organisms	Base Metals

This is followed by 2 pairs of worlds that will contain the rest of the resources you need if you simply wish to cover all resources

<u>Noble Metal worlds</u>	<u>Planktic Colonies</u>
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BARREN	PLASMA		ICE	OCEANIC
carbon compounds	Base Metals		Heavy metals	carbon compounds
micro organisms	Heavy Metals		micro organisms	Micro Organisms

base metals	Noble Metals		Aqueous liquids	Aqueous liquids
aqueous liquids	Non-CS Crystals		planktic colonies	planktic colonies
noble metals	Suspended Plasma		noble gas	complex organisms

Leaving Storm as the "apparent" odd planet out, however its still useful for certain products that can be made on Storm worlds, such as Oxygen and Coolant

STORM
 Aqueous Liquids
 Base Metals
 Suspended Plasma
 Ionic Solutions
 Noble Gas

Current production is 3000 units to make 20 units in the basic processor. Production,

Basic mats to T1 products,

Aqueous Liquids..... Water
 Autotrophs..... Industrial Fiber
 Base Metals..... Reactive metal
 Carbon Compounds.... Biofuels
 Complex Organisms... Proteins
 Felsic Magma..... Silicon
 Heavy Metals..... Toxic Metal
 Ionic Solutions..... Electrolytes
 Micro organisms..... Bacteria
 Noble Gas..... Oxygen
 Noble Metals..... Precious Metals

Non-CS Crystals..... Chiral Structures
Planktic Colonies..... Biomass
Reactive Gas..... Oxidizing Compound
Suspended Plasma..... Plasmoids

Beyond that your probably interested in starting with something basic like POS fuel

that's
product) {Created from} <single source planet(s)>

Oxygen {Nobel Gases} <ICE> <STORM> <Gas*>(only needs the Basic processor)

Enriched Uranium {Precious Metals + Toxic Metal} <PLASMA>(you need 2 basic processor and one advanced processor)

Mechanical parts {Reactive metals + Precious metals} <PLASMA> <BAREN>(you need 2 basic processor and one advanced processor)

Coolant {Electrolytes and water}<GAS*><STORM>>(you need 2 basic processor and one advanced processor)

Robotics {Mechanical Parts and Consumer Electronics}(mechanical parts created from Reactive Metals and Precious metals while Consumer electronics are made from Toxic metals and Chiral structures.)(Plasma)

So basically your looking at Plasma/Storm for the bare minimum number of worlds that you will need

*not my first choice for just making pos fuel due to many of those worlds having size issues depleting the bandwidth on routs. you may literally end up just exporting reactive gases from those worlds,(or importing mats to react them down)

Advanced topics

Layouts:

Personally I prefer what I refer to as an ICS layout (Infinite City Spam, its a tactic that worked VERY well in the old Sid Myers Civilization series of games)

its easier to show you than to explain it. . .



This kind of pattern give you some advantages, shorter routes for example vs. a more spread out network can save you enough power to build more extractors/processors , there is a slight downside in that you dont get every extractor on the same hotspot but vs. a spread out network.

one downside though is that it can be a pain to modify routing, and takes a bit of practice to get the hang of a layout as tight as you can comfortably build.

However once you get the hang of layouts like the above, the extra extractor feeds you can get from a layout like this more than pays for itself,

I don't recommend a "spread out layout" simply because you don't seem to get any benefit from doing so, you end up eating link costs from doing so, if you try to lay out on one given hotspot you end up with just one pin getting a decent pull on the resources and the others being rather noticeably worse due to there distance from the actual hotspot.

Note that some people call the layout above pin stacking, however to me pin stacking is either a now nerfed method of getting pins to almost literally stack on top of each other so that your transportation links cost you next to zero, or stacking your pins on top of someone elses extraction hotspot----

Routing:

Assuming you have a planet your extracting from a 0-0 world, you will notice a few things, for one,



the amount of Raw materials you can pull with an extractor can be fairly dramatic.

In this case, One extractor at the 9438 cycle can feed 1 extractor every 10 min.

but at that level on that extractor the feed from the extractor can (and will) use up 75% of the route between it and the extractor.



Obviously this is going to be a problem when I try to rout another extractor through the link!

The Easy way to deal with this is to simply upgrade the link.

you need to select the link itself



Note that the rout can handle 250 m3 per hour.



Upgrading the routes (in this case I deliberately routed all 8 extractor pins to pass through one pin to the storage point I am using in the spaceport) let you continue to use the same path as opposed to laying down individual routs from one location to another.

however as you can see below, when doing this, being able to keep your individual routes between Extractors and storage short will save you a big chunk of your power and CPU

reserve.



Just to clarify: Usage on the Bottom line shows how much load that rout is currently handling, however the CPU and Power totals on the bottom are for your entire network, not what is being used by that rout or all routes,

Dealing with (Gas)Giant planets

They can really eat into your bandwidth due to the insane length of the transportation nodes, however, there's a couple of tricks you can use here:

1) go with several "mini" setups located over each hotspot, consisting of 1 or more extractors, 1 storage and 1(two if you really need them) basic processors, but do NOT link them to anything else yet. leave some power-cpu to pay for the longest rout that you need, then make temporary links to a central location and use Expedite transfer orders to move items manually

2) specialize the world into only making one product (reactive gas for Gas Giants) 3)

Something I really Don't recommend but you can simply settle for getting less than optimal yields from other extractors by placing them closer to your base of operations